COSEWIC Annual Report

presented to

The Minister of the Environment

and

The Canadian Endangered Species Conservation Council (CESCC)

from

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC)

2010 - 2011

COSEWIC
Committee on the Status of Endangered Wildlife in Canada

COSEPAC
Comité sur la situation des espèces en péril au Canada

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EXECUTIVE SUMMARY

Under Canada's *Species at Risk Act* (SARA), the foremost function of COSEWIC is to "assess the status of each wildlife species considered by COSEWIC to be at risk and, as part of the assessment, identify existing and potential threats to the species".

COSEWIC held two Wildlife Species Assessment Meetings during the past year assessing the status or reviewing the classification of a total of 92 wildlife species.

The wildlife species assessment results for the 2010-2011 reporting period include the following:

Extinct:	1
Extirpated:	2
Endangered:	42
Threatened:	15
Special Concern:	22
Data Deficient:	4
Not at Risk:	6

Of the 92 wildlife species examined, COSEWIC reviewed the classification of 41 species as required under Section 24 of SARA. The review of classification for 30 of those species already listed on Schedule 1 of SARA resulted in a confirmation of the same status as the previous assessment. Additionally, this report transmits to the Minister the status of 51 species newly classified as Extirpated (no longer found in the wild in Canada but occurring elsewhere), Endangered, Threatened or Special Concern, fulfilling COSEWIC's obligations under SARA, Section 25. A full detailed summary of the assessment for each species and the reasons for the designation can be found in Appendix I of the attached report.

In addition to the above-mentioned species assessments, COSEWIC undertook a number of activities this year in support of its wildlife assessment mandate. COSEWIC's Arthropods Specialist Subcommittee prepared reports on possible Coccinellidae (lady-bug) and Crustacean candidates for COSEWIC assessment. The Species Specialist Subcommittee is currently evaluating available options to address the lack of crustacean experts within the subcommittee needed to provide advice on status recommendations for these species.

A Threats Calculator, which weights the identified threats for each wildlife species, was tested by COSEWIC members with the intention of it becoming a standard in the assessment of all species at risk. A Threats Classification System has been used by the International Union for Conservation of Nature (IUCN) with benefits to assessment and post-assessment activities, such as species recovery planning.

In response to direction from the Canadian Wildlife Directors Committee, COSEWIC struck a new working group to look at whether species co-occurring in the same ecosystem or those with the same or similar threats might have their status classifications reviewed at the same time. The working group provided a power point presentation to the members at the Spring 2011 COSEWIC Species Assessment Meeting and following much discussion, it was agreed that COSEWIC would initiate a "species bundling" pilot project looking at vascular plant species in the Athabasca ecosystem.

Since its inception, COSEWIC has assessed 635 wildlife species in various risk categories, including 278 Endangered, 158 Threatened, 176 Special Concern and 23 Extirpated. In addition, 14 wildlife species have been assessed as Extinct. Also, to date, 50 wildlife species have been identified by COSEWIC as Data Deficient and 170 wildlife species were assessed as Not at Risk.

COSEWIC would be unable to accomplish the work detailed in this annual report without the dedication of the members of COSEWIC, the Species Specialist Subcommittees and the Aboriginal Traditional Knowledge Subcommittee, all of whom provide their time and expertise to ensure COSEWIC species assessments are of the highest standard.

ITEM I – COSEWIC ACTIVITIES

1. Wildlife Species Assessment Meetings

Autumn, 2010

Date: November 22-26, 2010
Location: Ottawa, Ontario

Attendance:

Members – 42

Secretariat Staff –10

Observers – 43 (7 COSEWIC nominees for appointment as Co-chairs/NG Science Member, 4 Canadian Wildlife Service, 13 Fisheries & Oceans Canada, 2 Parks Canada, 2 Canadian Museum of Nature, 1 Ministère des Resources naturelles et de la Faune, Québec, 1 NWT Department of the Environment and Natural Resources, 1 Ontario Ministry of Natural Resources, 1 Nunavut Department of Environment, 1 Torngat Wildlife & Plants Co-Management Board, 2 WWF Canada, 1 Nature Canada, 2 Canadian Wildlife Federation, 1 Nature Serve Canada/member, Vascular Plants Specialist Subcommittee, 1 member, Marine Fishes Specialist Subcommittee, 1 member, Arthropods Specialist Subcommittee, 1 student, McGill University, 1 David Suzuki Foundation).

Invited Presenter - Susan Pinkus, Ecojustice Canada ("*Species at Risk Act*, COSEWIC and the Meaning of Recovery")

Spring, 2011

Date: May 1-6, 2011
Location: Charlottetown, Prince Edward Island
Hosted by the Province of Prince Edward Island.

Attendance:

Members - 40

Secretariat Staff – 8

Observers – 33 (7 Canadian Wildlife Service, 6 Fisheries & Oceans Canada, 2 Parks Canada, 1 Newfoundland Department of Fisheries & Aquaculture, 1 Nova Scotia Department of Natural Resources, 1 Ontario Ministry of Natural Resources, 3 PEI Department of Environment, Energy & Forestry, 1 Yukon Department of Environment, 1 WWF Canada, 1 Canadian Nature Federation, 1 member, Aboriginal Traditional Knowledge Subcommittee, 1 member, Molluscs Specialist Subcommittee, 1 member, National Aboriginal Council on Species at Risk (NACOSAR), 2 IKANAWTIKET, 3 Atlantic Canada Conservation Data Centre,1 West River Watershed Group).

Invited Presenter – Dr. Doug Swain, Fisheries & Oceans Canada ("*Continued Decline of Large Demersal Fishes in the Southern Gulf of St. Lawrence Despite Little Fishing: Possible Causes and their Consequences*")

Teleconferences:

Following each of the above-noted COSEWIC Species Assessment Meetings, the Chair of COSEWIC communicated with the Canadian Wildlife Directors Committee via teleconference, as well as with representatives of the Wildlife Management Boards and members of NACOSAR.

2. Summary Results of the Wildlife Species Assessment Meetings

Section 15 (1) of SARA states: "The functions of COSEWIC are to (*a*) assess the status of each wildlife species considered by COSEWIC to be at risk and, as part of the assessment, identify existing and potential threats to the species and
(i) classify the species as extinct, extirpated, endangered, threatened or of special concern,
(ii) indicate that COSEWIC does not have sufficient information to classify the species, or
(iii) indicate that the species is not currently at risk".

In November 2010, COSEWIC assessed or reviewed the classification of the status of 52 wildlife species (species, subspecies and populations) based on 39 Status Reports, 1 of which was an unsolicited report.

The wildlife species assessment results include the following:

Extirpated	1
Endangered:	20
Threatened:	8
Special Concern:	13

In addition, 1 wildlife species was assessed as Extinct, 6 were assessed as Not at Risk and 3 were assessed as Data Deficient.

Classification was reviewed by COSEWIC and the status was confirmed to be in the same category for 14 wildlife species classified as Extirpated (no longer found in the wild in Canada but occurring elsewhere), Endangered, Threatened or Special Concern on Schedule 1 of SARA:

Atlantic Salmon (Inner Bay of Fundy population), Atlantic Whitefish, Barn Owl (Eastern population), Columbia Sculpin, Eastern Mole, Nodding Pogonia, Pallid Bat, Sage Thrasher, Seaside Birds–foot Lotus, Skinner's Agalinis, Timber Rattlesnake, White Prairie Gentian, White–headed Woodpecker, Woodland Vole.

Classification was reviewed by COSEWIC for 2 wildlife species previously classified as of Special Concern on Schedule 3 of SARA, resulting in a change of status category. COSEWIC considered both the Chestnut Lamprey (Great Lakes – Upper St. Lawrence populations) and the Chestnut Lamprey (Saskatchewan – Nelson River populations) and placed them in the Data Deficient category.

With the transmission of this report, COSEWIC provides our assessments of 28 wildlife species newly classified as Extirpated, Endangered, Threatened and Special Concern to the Minister of Environment so that he can consider whether to recommend to the Governor in Council (GIC) that they be added to Schedule 1 of SARA:

Atlantic Salmon (Anticosti Island population), Atlantic Salmon (Eastern Cape Breton population), Atlantic Salmon (Nova Scotia Southern Upland population), Atlantic Salmon (Outer Bay of Fundy population), Atlantic Salmon (Quebec Eastern North Shore population), Atlantic Salmon (Quebec Western North Shore population), Atlantic Salmon (Inner St. Lawrence population), Atlantic Salmon (Gaspe–Southern Gulf of St. Lawrence population), Atlantic Salmon (South Newfoundland population), Barn Owl (Western population), Blue Felt Lichen, Butler's Gartersnake, Cerulean Warbler, Crumpled Tarpaper Lichen, Dolly Varden (Western Arctic populations), Dwarf Lake Iris, Jefferson Salamander, Mountain Sucker (Pacific populations), Mountain Sucker (Milk River populations), Northern Fur Seal, Pitcher's Thistle, Purple Twayblade, Rocky Mountain Ridged Mussel, Roell's Brotherella Moss, Shorthead Sculpin, Showy Goldenrod (Great Lakes Plains population), Showy Goldenrod (Boreal population), Skillet Clubtail.

In May, 2011, COSEWIC assessed or reviewed the classification of the status of 40 wildlife species (species, subspecies and populations) based on 38 Status Reports, none of which were unsolicited reports.

The wildlife species assessment results include the following:

Extirpated:	1
Endangered:	22
Threatened:	7
Special Concern:	9

In addition, 1 wildlife species was examined and found to be Data Deficient.

Classification was reviewed by COSEWIC and the status was confirmed to be in the same category for 16 wildlife species classified as Extirpated, Endangered, Threatened or Special Concern on Schedule 1 of SARA:

Barrow's Goldeneye, Blanchard's Cricket Frog, Desert Nightsnake, Furbish's Lousewort, Henslow's Sparrow, King Rail, Long–billed Curlew, Long's Braya, Northern Bottlenose Whale (Scotian Shelf population), Olympia Oyster, Oregon Spotted Frog, Poor Pocket Moss, Salamander Mussel, Small Whorled Pogonia, Southern Maidenhair Fern, Taylor's Checkerspot.

COSEWIC completed a review of classification for the Coastal Giant Salamander (*Dicamptodon tenebrosus*). Based on this review, COSEWIC decided that a fully updated status report is required to assess the status of this wildlife species. The requirement for COSEWIC to review the classification of this species at risk at least once every 10 years, as per SARA s. 24, has thereby been fulfilled.

Classification was reviewed by COSEWIC for 1 wildlife species previously classified as of Special Concern on Schedule 3 of SARA, resulting in a change of status category. COSEWIC assessed the Silver Shiner as Threatened.

COSEWIC hereby forwards the COSEWIC assessments for 23 wildlife species newly classified as Extirpated, Endangered, Threatened and Special Concern to the Minister of Environment so that he can consider whether to recommend to the GIC that they be added to Schedule 1 of SARA:

Atlantic Bluefin Tuna, Atlantic Sturgeon (St. Lawrence populations), Atlantic Sturgeon (Maritimes populations), Barn Swallow, Batwing Vinyl Lichen, Dune Tachinid Fly, Eastern Meadowlark, Eulachon (Nass / Skeena Rivers population), Eulachon (Central Pacific Coast population), Eulachon (Fraser River population), Hickorynut, Hine's Emerald, Humpback Whale (North Pacific population), Hungerford's Crawling Water Beetle, Lyall's Mariposa Lily, Macropis Cuckoo Bee, Northern Bottlenose Whale (Davis Strait–Baffin Bay–Labrador Sea population), Olive Clubtail, Peacock Vinyl Lichen, Silver Lamprey (Saskatchewan – Nelson Rivers populations), Silver Lamprey (Great Lakes – Upper St. Lawrence populations), Spring Salamander (Adirondack / Appalachian population), Spring Salamander (Carolinian population).

Appendix I provides the results of COSEWIC's assessment of the status of each species including the reasons for each designation

As of May 2011, the COSEWIC assessment results include 635 wildlife species at risk in various categories, including 278 Endangered wildlife species, 158 Threatened wildlife species, 176 Special Concern wildlife species and 23 Extirpated wildlife species. In addition, COSEWIC has designated 14 wildlife species as Extinct.

As of May 2011, a total of 50 wildlife species have also been designated as Data Deficient and 170 have been assessed and assigned Not at Risk status.

3. Important Note Regarding Status Assessments

Aurora Trout (*Salvelinus fontinalis timagamiensis*):

COSEWIC agreed that the Aurora Trout is ineligible for assessment and recommends that it be deactivated/removed from Schedule 1 of SARA. The decision was based on the recommendation of the Freshwater Fishes Specialist Subcommittee and the review of an updated status report (10-year update as required under SARA) which indicated that the Aurora Trout does not meet the combined "discrete" and "significant" criteria necessary for recognition as a designatable unit under COSEWIC's revised guidelines.

See Appendix II for the COSEWIC Press Releases from the November 2010 and May 2011 Wildlife Species Assessment Meetings.

4. Emergency Assessments

Section 29 of SARA provides for the listing of a species based on an imminent threat – an emergency listing. Section 30 (1) of SARA states that COSEWIC is to prepare a status report and confirm the classification of species listed on an emergency basis.

Two applications were received for emergency assessments, one was for the Cowichan-Koksilah Conservation Unit of Chinook Salmon and the other for the Spiked Saxifrage. Both requests were reviewed by the Chair, the relevant Co-chairs of the Species Specialist Subcommittees, members with expertise on each taxon and federal and provincial/territorial members. In both cases it was decided that an emergency assessment was not warranted.

5. Wildlife Species Assessments returned by the Governor in Council (GIC) to COSEWIC for further information or consideration

In response to the GIC's Spring 2009 decision to refer back to COSEWIC the assessment of the Northern Fur Seal (*Callorhinus ursinus*), the Marine Mammals Specialist Subcommittee initiated a reassessment of that species. During the COSEWIC Species Assessment Meeting November 2010, the species was re-assessed and the status was confirmed as Threatened. Further details are provided in Appendix I.

6. Wildlife Species Selected for Status Report Preparation

Section 15.1 (b) of SARA states that one of the functions of COSEWIC is to "determine when wildlife species are to be assessed, with priority given to those more likely to become extinct".

Following COSEWIC's process for determining those wildlife species for which status reports will be commissioned, the following wildlife species from COSEWIC's Species Specialist Subcommittees' candidate lists were chosen by the Committee for status report commissioning. None of these species have been assessed by COSEWIC to date.

Species for which Status Reports will be commissioned in autumn 2012:

SPECIES COMMON NAME	SPECIES SPECIALIST SUBCOMMITTEE
Sable Island Sweat Bee	Arthropods
Blackfin Cisco	Freshwater Fishes
Yellow-banded Bumble Bee	Arthropods
A "midget funnel-web tarantula"	Arthropods
Black Swift	Birds
Pygmy Slug	Molluscs
Prairie Rattlesnake	Reptiles
Proud Globelet	Molluscs
Vivid Dancer	Arthropods
Tall Beakrush	Vascular Plants
Black-foam Lichen	Mosses & Lichens
Ringed Seal	Marine Mammals
Golden-eye Lichen	Mosses & Lichens
Belted Kingfisher	Birds
Longear Sunfish	Freshwater Fishes

7. Annual Subcommittee Meetings

ATK Subcommittee:

A workshop (*Workshop on the Collection of ATK for Wildlife Species Assessments and SARA*) was held from October 2-3, 2010 attended by the members of the ATK Subcommittee, the Chair of COSEWIC, several COSEWIC Species Specialist Subcommittee Co-chairs and representatives from Environment Canada, Fisheries & Oceans Canada, Parks Canada, NACOSAR and the COSEWIC Secretariat. The purpose of the workshop was to clarify and coordinate protocols and processes for the collection of ATK in support of wildlife status assessments and other needs under SARA.

Subsequent to the workshop, a meeting was held with the ATK Subcommittee and Species Specialist Subcommittee Co-chairs to discuss the gathering of ATK and the ATK Review Report Production Process. The group also identified potential species to be included in the ATK reviewing process over the next four years. The ATK Subcommittee also held other meetings over the past year.

Species Specialist Subcommittees:

Species Specialist Subcommittee meetings take place annually in different locations in Canada or by teleconference held once or twice a year. The primary goals of these meetings are to discuss and make recommendations on species status, review potential candidate species and identify priority species for assessment. During the face-to-face meetings, observers are invited to attend and sometimes a public information session will take place.

In addition, Species Specialist Subcommittees may discuss the results of recent COSEWIC Species Assessment Meetings, results of public calls for bids for the preparation of COSEWIC status reports, and results of public calls for membership. The subcommittees will also provide orientation to their new members, discuss special projects and plans, and receive an update on COSEWIC Operations and Procedures.

Currently, COSEWIC has 10 Species Specialist Subcommittees each led by two expert Co-chairs.

In addition to their regular business, a number of subcommittees have undertaken some special projects in order to better serve COSEWIC's core mandate of assessing the status of wildife species in Canada.

The following are the names of each Species Specialist Subcommittee and any special projects planned or undertaken if applicable.

Amphibians & Reptiles Specialist Subcommittee

There are no special projects to report.

Arthropods Specialist Subcommittee

Reports prepared in the last year on candidate Coccinellidae and Crustacean species are being reviewed by the Species Specialist Subcommittee. The Coccinellidae report identified several candidate species that may be proposed for the 2012 COSEWIC priority ranking exercise. The Crustaceans report resulted in a substantial list of crustacean species that may be candidates for COSEWIC assessment. However, the Subcommittee is uncertain about whether the expertise to formulate status recommendations to COSEWIC on crustaceans resides within the current Arthropods subcommittee. Methods for addressing this issue are being discussed.

Birds Specialist Subcommittee

No special projects were carried out by the Species Specialist Subcommittee. However, the COSEWIC member from Parks Canada, Patrick Nantel, undertook a preliminary analysis of Breeding Bird Survey trend data to estimate probability of future decline using the Eastern Meadowlark as a case-study. His statistical approaches look very promising, at least for some species, and merit further examination by the Species Specialist Subcommittee.

Freshwater Fishes Specialist Subcommittee

There are no special projects to report.

Marine Fishes Specialist Subcommittee

There are no special projects to report.

Marine Mammals Specialist Subcommittee

The Species Specialist Subcommittee proposed a special project that would examine marine mammals that were previously assessed by COSEWIC as Data Deficient or Not at Risk in order to determine whether they are, in fact, eligible for re-assessment and to ensure they were given the appropriate designation at the time of assessment. However, the project will not proceed at this time due to a lack of funding.

Molluscs Specialist Subcommittee

Some members of the Species Specialist Subcommittee are currently looking into the production of a Freshwater Mussels of Canada Field Guide.

A project on microsatellites of selected Canadian physids did not proceed due to a lack of funding.

Mosses & Lichens Specialist Subcommittee

There are no special projects to report.

Terrestrial Mammals Specialist Subcommittee

A report on designatable units (DUs) for all caribou populations in Canada is in progress. COSEWIC will receive a provisional report prior to its November 2011 meeting where the proposed DUs will be voted on. A Population Viability Analysis (PVA) stand-alone COSEWIC document was prepared for input in the preparation of the Prairie Dog status report.

Vascular Plants Specialist Subcommittee

There are no special projects to report.

COSEWIC is extremely grateful for the important work of the Species Specialist Subcommittee members who provide their time and expertise on a volunteer basis.

8. Update on Progress of Working Groups within COSEWIC

Chair of COSEWIC Working Group

A working group was established to consider the following issues with respect to the position of Chair of COSEWIC –

- Duties of the Chair.
- Should the Chair be a stand-alone member?
- Improving access to the position by others (jurisdictional members, etc.)
- Administrative/business side (monetary agreements etc.).

Findings and recommendations were outlined in a report which was provided to members and discussed during the May, 2011 Species Assessment Meeting. In addition, a worksheet setting out the time spent on different aspects of work of the Chair was prepared by Jeff Hutchings, past Chair.

Following discussion, it was decided not to proceed with the recommendations in the report but that the Working Group will, instead, flesh out more options and look at different models over the next year or two.

Criteria Working Group:

Section 15.1 of SARA states that one of the functions of COSEWIC is to "develop and periodically review criteria for assessing the status of wildlife species and for classifying them and recommend the criteria to the Minister and the Canadian Endangered Species Conservation Council."

A Criteria Training Session for new members and a refresher for current members was held immediately prior to the November 2010 Species Assessment Meeting. The session was organized and led by Dave Fraser, Chair of the Criteria Working Group, and approximately 40 people attended.

A Threats Calculator was tested by COSEWIC members with the intention of it becoming a standard in the assessment of all species at risk. A Threats Classification System has been used by IUCN with benefits to assessment and post-assessment activities such as Recovery planning. A training session was given by Dave Fraser at the Spring 2011 COSEWIC Species Assessment Meeting to assist members with the use of the threats calculator.

Prioritized List of Candidate Species Working Group:

A new working group was struck tasked to propose for review and approval an improved scheme for the ranking of a prioritized list of candidate species.

Press Release Working Group:

A permanent Press Release Working Group is tasked at each Wildlife Species Assessment Meeting with coordinating and preparing the Press Releases issued by COSEWIC as found in Appendix II of this report.

Instructions to Report Writers Working Group:

The working group was reactivated to work on some minor improvements to the Instructions to Report Writers with regard to Index of Area of Occupancy, Extent of Occurrence and Locations.

Species Bundling Working Group:

A new working group was struck to look at whether species co-occurring in the same ecosystem or those with the same or similar threats or are inter-dependent etc. might have their status classifications reviewed at the same time.

The working group provided a power point presentation to the members at the Spring 2011 COSEWIC Species Assessment Meeting and following much discussion, it was agreed to initiate a pilot project (vascular plant species - Athabasca ecosystem).

ITEM II – COSEWIC MEMBERSHIP

Section 16 of SARA states that (1) COSEWIC is to be composed of members appointed by the Minister after consultation with the Canadian Endangered Species Conservation Council and with any experts and expert bodies, such as the Royal Society of Canada, that the Minister considers to have relevant expertise. (2) Each member must have expertise drawn from a discipline such as conservation biology, population dynamics, taxonomy, systematics or genetics or from community knowledge or aboriginal traditional knowledge of the conservation of wildlife species. (3) The members are to be appointed to hold office for renewable terms of not more than four years.

Membership Changes:

Members from Jurisdictions (Provincial/Territorial/Federal)

As per COSEWIC Operations and Procedures Manual, nominations for incoming members from jurisdictions are submitted directly to the Minister of the Environment with a copy provided to the Chair of COSEWIC.

Co-chairs of Species Specialist Subcommittees / Non-government Science Member

Between January 19 and February 19, 2011 calls for six co-chair positions and one non-government science member position on COSEWIC were posted on the COSEWIC public website with notifications of those calls being widely distributed. Selection committees were struck and applications were scrutinized following procedures for member selection as set out in the Operations & Procedures Manual of COSEWIC. Elections took place and as a result, COSEWIC recommended the following for membership on the Committee in the positions and for the terms indicated.

There was one candidate for the position of Co-chair, Amphibians & Reptiles Specialist Subcommittee who, upon evaluation, was considered unsuitable due to a lack of necessary expertise and experience. As a result, the incumbent, Dr. Ronald Brooks, has agreed to continue as Co-chair for another year. This extension will ensure that the work of the Amphibians & Reptiles Specialist Subcommittee continues without disruption and it will also allow Dr. Brooks to mentor the new Co-chair, whose term began in January, 2011.

The call for the position of Co-chair of the Marine Mammals Specialist Subcommittee failed to attract any applications. Dr. Jane Watson, the incumbent, agreed to stay on for one further year. A one-year extension for Dr. Watson will ensure that the work of the Marine Mammals Specialist Subcommittee proceeds without disruption.

The call for the position of Co-chair of the Vascular Plants Specialist Subcommittee attracted one application, which was subsequently withdrawn. Bruce Bennett, the incumbent, agreed to stay on for a further year to assist with the large volume of work facing this subcommittee.

The above three positions will be re-advertised in the 2012 call for membership.

Candidates presented for appointment as COSEWIC Members:

NAME OF SPECIES SPECIALIST SUBCOMMITTEE	POSITION	NEW / NOMINATED FOR REAPPOINTMENT	PROPOSED TERM
Amphibians & Reptiles	Co-chair	Dr. Ronald Brooks	1 year
Arthropods	Co-chair	Dr. Laurence Packer	4 years
Freshwater Fishes	Co-chair	Dr. Eric Taylor	4 years
Marine Mammals	Co-chair	Dr. Jane Watson	1 year
Mosses & Lichens	Co-chair	Dr. René Belland	4 years
Vascular Plants	Co-chair	Bruce Bennett	1 year
n/a	Non-government Science Member	Dr. Arne Mooers	4 years

See Appendix III for the biosketches of the nominees for appointment on COSEWIC.

For a current list of members on COSEWIC, please see the COSEWIC website. http://www.cosewic.gc.ca/eng/sct6/sct6_4_e.cfm

ITEM III – COSEWIC OPERATIONS AND PROCEDURES

Section 19 of SARA states that COSEWIC "may make rules respecting the holding of meetings and the general conduct of its activities."

COSEWIC bases the conduct of its activities on a thorough COSEWIC Operations and Procedures Manual that is reviewed between each Species Assessment Meeting by COSEWIC's Operations and Procedures Subcommittee. Any necessary changes are identified and provided to the Committee for their approval. During this reporting period, the COSEWIC Operations and Procedures Manual was updated to reflect some changes in COSEWIC's procedures. Most notable are:

The process with regard to Status Appraisal Summaries was developed and approved by COSEWIC. The Status Appraisal procedure is used as a means to efficiently review the classification of a wildlife species for which status is unlikely to change, in order to assist COSEWIC in meeting its requirement under SARA to review the classification of each species at least every 10 years. The procedure involves preparation of a Status Appraisal Summary, which is a brief document that provides information relevant to status that has been gathered since the last assessment. The Status Appraisal

Summary along with the technical summary, accompanies the existing status report and is reviewed by the Species Specialist Subcommittee, the ATK Subcommittee, relevant jurisdictions, Wildlife Management Boards and Recovery Teams and, if required, external experts. Status Appraisal Summaries along with relevant existing status reports are circulated to COSEWIC at least two months prior to a Wildlife Species Assessment Meeting.

ITEM IV – COSEWIC COMMUNICATION PLAN

COSEWIC has been encouraged to develop an outreach strategy to explain COSEWIC to Canadians.

During the period encompassed by this Report (September 1, 2010 – August 31, 2011). Dr. Marty Leonard attended meetings/gave the following talks and presentations on the work of the Committee:

- September 9, 2010, attended meeting in Truro, Nova Scotia, with Joshua McNeely and Roger Hunka of IKANAWTIKET, a Maritime Aboriginal Environmental Group.
- December, 2010, met with Jeff Stevens, a new member of NACOSAR.
- October, 2010 & May, 2011, made presentations at the Canadian Wildlife Directors Meetings.

Also, June 11-12, 2011 Dr. Justina Ray and Dr. Graham Forbes, Co-chairs of the Terrestrial Mammals Specialist Subcommittee, Dr. Andrew Trites, member, Marine Mammals Specialist Subcommittee and Dr. Donna Hurlburt, Co-chair of the ATK Subcommittee met with the Nunavut Wildlife Management Board. They gave presentations on and discussed the role and responsibilities of COSEWIC, the new processes and protocols for including ATK in status assessments and highlighted some upcoming species assessments of particular relevance to Board members.

In December 2010 in Montreal, Quebec, Dr. Hurlburt also gave a similar presentation to the Nunavik Marine Region Wildlife Management Board.

ITEM V – WILDLIFE SPECIES STATUS ASSIGNMENTS

Wildlife Species assessed since the last reporting indicating status assigned, reasons for designation (including uncertainties if applicable) and COSEWIC criteria with alphanumeric codes is provided in **Appendix I**.

Status reports which contain the information on which COSEWIC's assessment of the status of the wildlife species is based will be available on SARA Public Registry at the following address: www.sararegistry.gc.ca

APPENDIX I

COSEWIC Wildlife Species Assessments (detailed version), November 2010*

Results are grouped by taxon and then by status category. The range of occurrence in Canada (by province, territory or ocean) and history of status designation are provided for each wildlife species. Assessment criteria and reason for designation are shown, where applicable.*

Mammals

Northern Fur Seal ***Callorhinus ursinus*** **Threatened**

Assessment Criteria A2b

Reason for Designation

Most of the animals that winter in Canadian waters breed at four islands, of which three are in Alaska (two in the Pribilof Islands – St Paul, St George - plus Bogoslof) and one in California (San Miguel). Pup production is used as an index of population size. Pup production at the two largest breeding colonies, both in the Pribilof Islands, which presently account for 90% of all fur seals in the eastern Pacific, has been declining for the last 45 years and pup numbers at these colonies have declined by 38% over the last 30 years (3 generations). Numbers of pups have been increasing in the much smaller colony at Bogoslof Island. Taken together, these trends in pup production mean it is likely that numbers of mature individuals will continue to decline. In 2008 there were approximately 650,000 fur seals in the eastern Pacific compared with more than 2 million in the 1950s. There is potential for rescue from Asian colonies in the western Pacific, although little is known about dispersal in mature females. The causes of the declines are unknown, but continuing and potential threats include entanglement, prey limitation, oil spills and the effects of contaminants.

Range BC Pacific Ocean

Status History

Designated Not at Risk in April 1996. Status re-examined and designated Threatened in April 2006. Status re-examined and confirmed in November 2010.

Pallid Bat ***Antrozous pallidus*** **Threatened**

Assessment Criteria D1

Reason for Designation

This relatively large but rare bat is restricted to the semi-arid shrub-steppe of the southern Okanagan Valley, BC at the northern limit of its global distribution. Although the number of known individuals has increased since the last assessment, this can be attributed to increased survey effort and the enhanced knowledge of roost sites. Nevertheless, the population is still thought to be small (fewer than 1000 individuals), cliffs available for roosting are very limited and foraging habitat is in continuing decline.

Range BC

Status History

Designated Special Concern in April 1988. Status re-examined and designated Threatened in May 2000. Status re-examined and confirmed in November 2010.

Eastern Mole ***Scalopus aquaticus*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation
This small mammal has a Canadian range restricted to about 1000 hectares near Point Pelee National Park in southern Ontario. It has a restricted and fragmented distribution, but lack of adequate monitoring effort and quantification of threats underline the uncertainty of its conservation status. Although there is some evidence of decline, one third of the species' habitat is relatively secure in the park. Threats have not been evaluated elsewhere.

Range ON

Status History
Designated Special Concern in April 1980. Status re-examined and confirmed in April 1998, November 2000, and November 2010.

Woodland Vole ***Microtus pinetorum*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation
This small, rare mammal has a Canadian range restricted to highly fragmented areas of southern Ontario and southern Quebec. However, a lack of adequate monitoring effort and quantification of threats made the re-assessment of this species difficult. There is no evidence to suggest its status has changed since it was last assessed. Threats appear to be limited and not imminent or increasing.

Range ON QC

Status History
Designated Special Concern in April 1998. Status re-examined and confirmed in November 2001 and November 2010.

Birds

Barn Owl ***Tyto alba*** **Endangered**
Eastern population
Assessment Criteria D1

Reason for Designation
Eastern Canada supports a tiny fraction of the global population of this charismatic nocturnal raptor that preys on small rodents. Owing to its intolerance of cold climates and deep snow cover, populations in Canada are restricted to parts of southern British Columbia and southwestern Ontario, where the species is now close to being extirpated. Across the northern extent of its eastern North American breeding range, the species is declining and is threatened by ongoing loss and degradation of grassland and old field habitat and by the conversion of old wooden barns and other rural buildings to more modern structures. This owl is also exposed to increasing levels of road-kill mortality owing to expansion of the road network and increases in traffic volume.

Range ON

Status History
The species was considered a single unit and designated Special Concern in April 1984. In April 1999, the Western and Eastern populations were assessed separately. The Eastern population was designated Endangered. Status re-examined and confirmed in May 2000 and November 2010.

Cerulean Warbler ***Dendroica cerulea*** **Endangered**
Assessment Criteria C2a(ii)

Reason for Designation
This sky-blue forest songbird is at the northern edge of its breeding range in Canada. Relying on relatively large tracts of undisturbed hardwood forest, it has rather specialized habitat requirements on both its breeding and wintering grounds. Its population has been experiencing significant declines across most of its range since the 1960s and the present Canadian population is estimated at about only 1000 individuals. These declines are believed to be driven mostly by loss and degradation of this species' wintering habitat, which is restricted to montane forests in the northern Andes of South America. It is also threatened by habitat loss and degradation on its breeding grounds. There is evidence for continuing declines. Also, new information on demographics suggests that chances for population rescue in Canada are lower than previously thought.

Range ON QC

Status History
Designated Special Concern in April 1993. Status re-examined and confirmed in May 2003. Status re-examined and designated Endangered in November 2010.

Sage Thrasher ***Oreoscoptes montanus*** **Endangered**
Assessment Criteria B1ab(ii,iii)+2ab(ii,iii); C2a(i); D1

Reason for Designation
In Canada, this species occurs in British Columbia, Alberta and Saskatchewan. Its Canadian population is extremely small, ranging from 7 to 36 individuals depending on the year. Populations in adjacent parts of the U.S., which are a likely source of birds for Canada, are declining. In addition, the sagebrush habitat necessary for breeding is decreasing, particularly in British Columbia, where the species is a regular breeder.

Range BC AB SK

Status History
Designated Endangered in April 1992. Status re-examined and confirmed in November 2000 and November 2010.

White-headed Woodpecker ***Picoides albolarvatus*** **Endangered**
Assessment Criteria B1ab(ii,iii)+2ab(ii,iii); C2a(i,ii); D1

Reason for Designation
In Canada, this distinctive woodpecker breeds only in British Columbia. Its Canadian population is extremely small, likely fewer than 100 individuals. The population is exposed to ongoing threats from habitat loss and degradation. Rescue from the U.S., where populations are sparse, is expected to be limited due to U.S. population declines and restricted remaining habitat in Canada.

Range BC

Status History
Designated Threatened in April 1992. Status re-examined and designated Endangered in November 2000 and November 2010.

Barn Owl ***Tyto alba*** **Threatened**
Western population
Assessment Criteria C2a(i); D1

Reason for Designation
Western Canada supports a small fraction of the global population of this charismatic nocturnal raptor that preys on small rodents. Owing to its intolerance of cold climates and deep snow cover, populations in Canada are restricted to parts of southern British Columbia and southwestern Ontario. The Western population in British Columbia is small and threatened by ongoing loss and degradation of grassland and old field habitat to intensive agriculture and urbanization and by the conversion of old wooden barns and other rural buildings to more modern structures. This owl is also exposed to increasing levels of road-kill mortality owing to expansion of the road network and increases in traffic volume.

Range BC

Status History
The species was considered a single unit and designated Special Concern in April 1984. In April 1999, the Western and Eastern populations were assessed separately. The Western population was designated Special Concern. Status re-examined and confirmed in November 2001. Status re-examined and designated Threatened in November 2010.

Reptiles

Timber Rattlesnake ***Crotalus horridus*** **Extirpated**
Range ON

Status History
Designated Extirpated in May 2001. Status re-examined and confirmed in November 2010.

Butler's Gartersnake ***Thamnophis butleri*** **Endangered**
Assessment Criteria B2ab(i,ii,iii,iv,v)

Reason for Designation
Most populations of this species occur in small, scattered habitat remnants. Most are isolated so they are threatened by the negative genetic effects of small population size and by demographic stochasticity. Recent surveys have not detected the species at several sites where they were formerly known. Road mortality, ongoing habitat loss and fragmentation are also threats to this small specialized snake.

Range ON

Status History
Designated Special Concern in April 1999. Status re-examined and designated Threatened in November 2001. Status re-examined and designated Endangered in November 2010.

Amphibians

Jefferson Salamander ***Ambystoma jeffersonianum*** **Endangered**
Assessment Criteria A2bc+4bc; B2ab(i,ii,iii,iv,v)

Reason for Designation
This salamander has a restricted range within populated and highly modified areas. Over the past three generations, the species has disappeared from many historic locations and the remaining locations are threatened by development, loss of habitat and, potentially, the presence of sperm-stealing unisexual populations of salamanders.

Range ON

Status History
Designated Threatened in November 2000. Status re-examined and designated Endangered in November 2010.

Fishes

Atlantic Salmon ***Salmo salar*** **Extinct**

Lake Ontario population

Assessment Criteria not applicable

Reason for Designation

Once a prolific resident throughout the Lake Ontario watershed, there has been no record of this population since 1898. The Lake Ontario population was extinguished through habitat destruction and through over-exploitation by food and commercial fisheries. As the original strain is gone, re-introduction is not possible. Recent attempts to introduce other strains of the species have resulted in some natural reproduction, but no evidence of self-sustaining populations.

Range ON Atlantic Ocean

Status History

Last reported in 1898. Designated Extirpated in April 2006. Status re-examined and designated Extinct in November 2010.

Atlantic Salmon ***Salmo salar*** **Endangered**

Inner Bay of Fundy population

Assessment Criteria C2a(i,ii); D1

Reason for Designation

This species requires rivers or streams that are generally clear, cool and well-oxygenated for reproduction and the first few years of rearing, but undertakes feeding migrations in the North Atlantic Ocean as older juveniles and adults. This population once bred in 32 rivers tributary to the inner Bay of Fundy, from just east of the Saint John River, to the Gaspereau River in Nova Scotia; however, spawning no longer occurs in most rivers. The population, which is thought to have consisted of about 40,000 individuals earlier in the 20th century, is believed to have been fewer than 200 individuals in 2008. Survival through the marine phase of the species' life history is currently extremely poor, and the continued existence of this population depends on a captive rearing program. There is no likelihood of rescue, as neighbouring regions harbour severely depleted, genetically dissimilar populations. The population has historically suffered from dams that have impeded spawning migrations and flooded spawning and rearing habitats, and other human influences, such as pollution and logging, that have reduced or degraded freshwater habitats. Current threats include extremely poor marine survival related to substantial but incompletely understood changes in marine ecosystems, and negative effects of interbreeding or ecological interactions with escaped domestic salmon from fish farms. The rivers used by this population are close to the largest concentration of salmon farms in Atlantic Canada.

Range NB NS Atlantic Ocean

Status History

Designated Endangered in May 2001. Status re-examined and confirmed in April 2006 and November 2010.

Atlantic Salmon ***Salmo salar*** **Endangered**

Anticosti Island population

Assessment Criteria C1

Reason for Designation

This species requires rivers or streams that are generally clear, cool and well-oxygenated for reproduction and the first few years of rearing, but undertakes lengthy feeding migrations in the North Atlantic Ocean as older juveniles and adults. This population breeds in rivers on Anticosti Island. Small (one-sea-winter) and large (multi-sea-winter) fish have both declined over 3 generations, approximately 32% and 49%, respectively, for a net decline of all mature individuals of about 40%. The population size is small, about 2,400 individuals in 2008. As is the case for most populations of the species, poor marine survival related to substantial but incompletely understood changes in marine ecosystems is a concern.

Range QC Atlantic Ocean

Status History

Designated Endangered in November 2010.

Atlantic Salmon ***Salmo salar*** **Endangered**

Eastern Cape Breton population

Assessment Criteria C1

Reason for Designation

This species requires rivers or streams that are generally clear, cool and well-oxygenated for reproduction and the first few years of rearing, but undertakes lengthy feeding migrations in the North Atlantic Ocean as older juveniles and adults. This population breeds in Cape Breton Island rivers draining into the Atlantic Ocean and Bras d'Or Lakes. The numbers of adults returning to spawn has declined by about 29% over the last 3 generations; moreover, these declines represent continuations of previous declines. The total number of mature individuals in 5 rivers, thought to harbour the majority of the population, was only about 1150 in 2008. There is no likelihood of rescue, as neighbouring regions harbour genetically dissimilar populations, and the population to the south is severely depleted. A current threat is poor marine survival related to substantial but incompletely understood changes in marine ecosystems.

Range NS Atlantic Ocean

Status History

Designated Endangered in November 2010.

Atlantic Salmon ***Salmo salar*** **Endangered**

Nova Scotia Southern Upland population

Assessment Criteria A2bce; C1

Reason for Designation

This species requires rivers or streams that are generally clear, cool and well-oxygenated for reproduction and the first few years of rearing, but undertakes lengthy feeding migrations in the North Atlantic Ocean as older juveniles and adults. This population breeds in rivers from northeastern mainland Nova Scotia, along the Atlantic coast and into the Bay of Fundy as far as Cape Split. Small (one-sea-winter) and large (multi-sea-winter) fish have both declined over the last 3 generations by approximately 59% and 74%, respectively, for a net decline of all mature individuals of about 61%. Moreover, these declines represent continuations of greater declines extending far into the past. During the past century, spawning occurred in 63 rivers, but a recent (2008) survey detected juveniles in only 20 of 51 rivers examined. There is no likelihood of rescue, as neighbouring regions harbour severely depleted, genetically dissimilar populations. The population has historically suffered from dams that have impeded spawning migrations and flooded spawning and rearing habitats, and other human influences, such as pollution and logging, that have reduced or degraded freshwater habitats. Acidification of freshwater habitats brought about by acidic precipitation is a major, ongoing threat, as is poor marine survival related to substantial but incompletely understood changes in marine ecosystems. There are a few salmon farms in this area that could lead to negative effects of interbreeding or ecological interactions with escaped domestic salmon.

Range NS Atlantic Ocean

Status History

Designated Endangered in November 2010.

Atlantic Salmon ***Salmo salar*** **Endangered**
Outer Bay of Fundy population
Assessment Criteria A2b

Reason for Designation
This species requires rivers or streams that are generally clear, cool and well-oxygenated for reproduction and the first few years of rearing, but undertakes lengthy feeding migrations in the North Atlantic Ocean as older juveniles and adults. This population breeds in rivers tributary to the New Brunswick side of the Bay of Fundy, from the U.S. border to the Saint John River. Small (one-sea-winter) and large (multi-sea-winter) fish have both declined over the last 3 generations, approximately 57% and 82%, respectively, for a net decline of all mature individuals of about 64%; moreover, these declines represent continuations of greater declines extending far into the past. There is no likelihood of rescue, as neighbouring regions harbour severely depleted, genetically dissimilar populations. The population has historically suffered from dams that have impeded spawning migrations and flooded spawning and rearing habitats, and other human influences, such as pollution and logging, that have reduced or degraded freshwater habitats. Current threats include poor marine survival related to substantial but incompletely understood changes in marine ecosystems, and negative effects of interbreeding or ecological interactions with escaped domestic salmon from fish farms. The rivers used by this population are close to the largest concentration of salmon farms in Atlantic Canada.

Range NB Atlantic Ocean

Status History
Designated Endangered in November 2010.

Atlantic Whitefish ***Coregonus huntsmani*** **Endangered**
Assessment Criteria B1ab(iii)+2ab(iii)

Reason for Designation
This species, a unique Canadian endemic present in only a single location, is restricted to three interconnected lakes in Nova Scotia. Its viability is threatened by illegal introduction of exotic fishes.

Range NS

Status History
Designated Endangered in April 1984. Status re-examined and confirmed in November 2000 and November 2010.

Atlantic Salmon ***Salmo salar*** **Threatened**
South Newfoundland population
Assessment Criteria A2b

Reason for Designation
This species requires rivers or streams that are generally clear, cool and well-oxygenated for reproduction and the first few years of rearing, but undertakes lengthy feeding migrations in the North Atlantic Ocean as older juveniles and adults. This population breeds in rivers from the southeast tip of the Avalon Peninsula, Mistaken Point, westward along the south coast of Newfoundland to Cape Ray. The numbers of small (one-sea-winter) and large (multi-sea-winter) salmon have both declined over the last 3 generations, about 37% and 26%, respectively, for a net decline of all mature individuals of about 36%. This decline has occurred despite the fact that mortality from commercial fisheries in coastal areas has greatly declined since 1992; this may be due to poor marine survival related to substantial but incompletely understood changes in marine ecosystems. Illegal fishing is a threat in some rivers. The presence of salmon aquaculture in a small section of this area brings some risk of negative effects from interbreeding or adverse ecological interactions with escaped domestic salmon. Genetic heterogeneity among the many small rivers in this area is unusually pronounced, suggesting that rescue among river breeding populations may be somewhat less likely than in other areas.

Range NL Atlantic Ocean

Status History
Designated Threatened in November 2010.

Mountain Sucker ***Catostomus platyrhynchus*** **Threatened**

Milk River populations

Assessment Criteria B1ab(iii)+2ab(iii)

Reason for Designation
This small freshwater fish is limited to the Milk River basin of southern Alberta and Saskatchewan. It has a small area of occupancy and number of locations (8) that make it particularly susceptible to habitat loss and degradation from altered flow regimes and drought that climate change is expected to exacerbate.

Range AB

Status History
The species was considered a single unit and designated Not at Risk in April 1991. Split into three populations in November 2010. The "Milk River populations" unit was designated Threatened in November 2010.

Atlantic Salmon ***Salmo salar*** **Special Concern**

Inner St. Lawrence population

Assessment Criteria not applicable

Reason for Designation
This species requires rivers or streams that are generally clear, cool and well-oxygenated for reproduction and the first few years of rearing, but undertakes lengthy feeding migrations in the North Atlantic Ocean as older juveniles and adults. This highly managed population breeds in rivers tributary to the St. Lawrence River upstream from the Escoumins River (not included) on the north shore and the Ouelle River (included) on the south shore. Small (one-sea-winter) and large (multi-sea-winter) fish have both remained approximately stable in abundance over the last 3 generations. The small size of the population, about 5,000 individuals in 2008, is of concern. The rivers in this area are close to the largest urban areas in Quebec and the population has undergone a large historical decline due to loss of habitat. As is the case for most populations of the species, poor marine survival related to substantial but incompletely understood changes in marine ecosystems is a concern.

Range QC Atlantic Ocean

Status History
Designated Special Concern in November 2010.

Atlantic Salmon ***Salmo salar*** **Special Concern**

Gaspe-Southern Gulf of St. Lawrence population

Assessment Criteria not applicable

Reason for Designation
This species requires rivers or streams that are generally clear, cool and well-oxygenated for reproduction and the first few years of rearing, but undertakes lengthy feeding migrations in the North Atlantic Ocean as older juveniles and adults. This population breeds in rivers from the Ouelle River (excluded) in the western Gaspé Peninsula southward and eastward to the northern tip of Cape Breton. Small (one-sea-winter) and large (multi-sea-winter) fish have both declined over the last 3 generations, approximately 34% and 19%, respectively, for a net decline of all mature individuals of about 28%. This recent 3 generation decline represents a continuation of a decline extending back at least to the 1980's. The number of mature individuals remains over 100,000; however, the majority spawn in a single major river system, the Miramichi, in New Brunswick. Freshwater habitat quality is a concern in some areas, particularly in Prince Edward Island where some remaining populations are maintained by hatchery supplementation. Invasive and illegally introduced species, such as smallmouth bass, are a poorly understood threat in some freshwater habitats. Poor marine survival is related to substantial but incompletely understood changes in marine ecosystems.

Range QC NB NS Atlantic Ocean

Status History
Designated Special Concern in November 2010.

Atlantic Salmon ***Salmo salar*** **Special Concern**

Quebec Eastern North Shore population

Assessment Criteria Met criterion for Threatened, C1, but designated Special Concern because of the increase in the number of large fish that have greater reproductive potential.

Reason for Designation
This species requires rivers or streams that are generally clear, cool and well-oxygenated for reproduction and the first few years of rearing, but undertakes lengthy feeding migrations in the North Atlantic Ocean as older juveniles and adults. This population breeds in rivers along the north shore of the St. Lawrence River estuary from the Napetipi River (not inclusive) westward to the Kegaska River (inclusive). This population shows opposing trends in the abundance of small (1 sea-winter) and large (multi-sea-winter) fish. Small salmon have declined 26% over the last 3 generations, whereas large salmon have increased 51% over the same period; pooling the data for both groups suggests a decline of about 14% for all mature individuals considered together. The small size of the population, about 5000 mature fish in 2008, is cause for concern. As is the case for most populations of the species, poor marine survival related to substantial but incompletely understood changes in marine ecosystems is also a concern.

Range QC Atlantic Ocean

Status History
Designated Special Concern in November 2010.

Atlantic Salmon ***Salmo salar*** **Special Concern**

Quebec Western North Shore population

Assessment Criteria not applicable

Reason for Designation
This species requires rivers or streams that are generally clear, cool and well-oxygenated for reproduction and the first few years of rearing, but undertakes lengthy feeding migrations in the North Atlantic Ocean as older juveniles and adults. This population breeds in rivers along the north shore of the St. Lawrence River from the Natashquan River (inclusive) to the Escoumins River in the west (inclusive). Small (one-sea-winter) and large (multi-sea-winter) fish have both declined over the last 3 generations, approximately 34% and 20%, respectively, for a net decline of all mature individuals of about 24%. As is the case for most populations of the species, poor marine survival related to substantial but incompletely understood changes in marine ecosystems is a concern.

Range QC Atlantic Ocean

Status History
Designated Special Concern in November 2010.

Columbia Sculpin ***Cottus hubbsi*** **Special Concern**

Assessment Criteria not applicable

Reason for Designation
In Canada, this small freshwater fish is endemic to the Columbia River basin where it has a small geographic distribution. It is a bottom-dwelling and sedentary fish as an adult, making it particularly susceptible to declines in habitat area and quality from drought and changes in water flow. It is close to meeting Threatened status owing to its small geographic range, relatively few locations and ongoing declines in habitat quality.

Range BC

Status History
Designated Special Concern in May 2000. Status re-examined and confirmed in November 2010.

Dolly Varden ***Salvelinus malma malma*** **Special Concern**
Western Arctic populations
Assessment Criteria not applicable

Reason for Designation
This fish from freshwater and marine habitats of Canada's western Arctic has a very limited area of occupancy associated with a relatively small (17) number of locations that are key for spawning and overwintering. Aboriginal Traditional Knowledge suggests declines in some populations, and the small area and number of key habitats make the species particularly susceptible both to point source (e.g., overexploitation, stochastic events) and broader-scale events (e.g., climate change) that may eliminate or degrade habitats.

Range YT NT

Status History
Designated Special Concern in November 2010.

Mountain Sucker ***Catostomus platyrhynchus*** **Special Concern**
Pacific populations
Assessment Criteria not applicable

Reason for Designation
This small freshwater fish has a patchy distribution within the North Thompson, lower Fraser and Similkameen rivers drainages in British Columbia. It has a small area of occupancy and number of locations within each of these areas. It is likely that habitat quality will continue to decline over about 40% of its Canadian range owing to increased water extraction in the Similkameen River drainage that climate change is expected to exacerbate.

Range BC

Status History
The species was considered a single unit and designated Not at Risk in April 1991. Split into three populations in November 2010. The "Pacific populations" unit was designated Special Concern in November 2010.

Shorthead Sculpin ***Cottus confusus*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation
In Canada, this small freshwater fish is endemic to the Columbia River basin where it has a very small geographic distribution. It is sedentary as an adult, making it particularly susceptible to habitat loss and degradation from water flow alteration, drought, and pollution. It occurs at a small number of locations and there is a continuing decline in habitat quality. A change from Threatened (2001) to Special Concern reflects an increase (13) in the estimation of the number of locations.

Range BC

Status History
Designated Threatened in April 1984. Status re-examined and confirmed Threatened in May 2001. Status re-examined and designated Special Concern in November 2010.

Atlantic Salmon ***Salmo salar*** **Not at Risk**

Southwest Newfoundland population

Assessment Criteria not applicable

Reason for Designation

This species requires rivers or streams that are generally clear, cool and well-oxygenated for reproduction and the first few years of rearing, but undertakes lengthy feeding migrations in the North Atlantic Ocean as older juveniles and adults. This population breeds in rivers from Cape Ray northwards along the west coast of Newfoundland to approximately 49°24' N, 58°15' W. Both small (one-sea-winter) and large (multi-sea-winter) salmon have increased in number over the last 3 generations, about 132% and 144%, respectively, giving an increase in the total number of mature individuals of about 134%.

Range QC NL Atlantic Ocean

Status History

Designated Not at Risk in November 2010

Atlantic Salmon ***Salmo salar*** **Not at Risk**

Northwest Newfoundland population

Assessment Criteria not applicable

Reason for Designation

This species requires rivers or streams that are generally clear, cool and well-oxygenated for reproduction and the first few years of rearing, but undertakes lengthy feeding migrations in the North Atlantic Ocean as older juveniles and adults. This population breeds in rivers along the west coast of Newfoundland from approximately 49°24' N, 58°15' W to the tip of the Great Northern Peninsula. The total number of mature individuals appears to have remained stable over the last 3 generations, and the number of large (multi-sea-winter) salmon appears to have increased by about 42%.

Range NL Atlantic Ocean

Status History

Designated Not at Risk in November 2010.

Atlantic Salmon ***Salmo salar*** **Not at Risk**

Labrador population

Assessment Criteria not applicable

Reason for Designation

This species requires rivers or streams that are generally clear, cool and well-oxygenated for reproduction and several years of rearing, but undertakes lengthy feeding migrations in the North Atlantic Ocean as older juveniles and adults. This population breeds in rivers along the Atlantic coast of Labrador and southwest along the Quebec coast to the Napetipi Rivers (inclusive). Freshwater habitats remain largely pristine. Abundance data are not available for most rivers; however, for rivers for which data are available, the number of mature individuals appears to have increased by about 380% over the last 3 generations.

Range NL Atlantic Ocean

Status History

Designated Not at Risk in November 2010.

Atlantic Salmon ***Salmo salar*** **Not at Risk**
Northeast Newfoundland population
Assessment Criteria not applicable

Reason for Designation
This species requires rivers or streams that are generally clear, cool and well-oxygenated for reproduction and the first few years of rearing, but undertakes lengthy feeding migrations in the North Atlantic Ocean as older juveniles and adults. This population breeds in rivers along the northeast coast of Newfoundland, from the northern tip of the island to the southeastern corner of the Avalon Peninsula. Recent abundance data show no clear trends in the number of mature individuals. Since 1992, the negative effects of poor marine survival have been at least partially offset by a near cessation of fishing mortality in coastal fisheries. Illegal fishing is a threat in some rivers.

Range NL Atlantic Ocean

Status History
Designated Not at Risk in November 2010.

Barndoor Skate ***Dipturus laevis*** **Not at Risk**
Assessment Criteria not applicable

Reason for Designation
This species, one of the largest skates in the western Atlantic Ocean, and with an estimated generation time of 13 years, ranges on continental shelf habitats from Cape Hatteras to the Grand Banks. In Canadian waters, it is most common on Georges Bank and the western Scotian Shelf. Numbers declined in the 1960s, likely due to bycatch in fisheries directed at other species. Indices of abundance are made less precise by fluctuations in distributions and the ability of large mature fish to evade survey gear, but indicate that the abundance of mature individuals has not declined over the last three generations, and has increased during the last 1-2 generations. Survey catch rate data indicate an ongoing increase in the abundance of mature and immature individuals on Georges Bank and western Scotian Shelf. Data from American surveys on Georges Bank suggest that the species has increased to a level that is approximately half the abundance estimated for this species in this area in the early 1960s. There are no directed fisheries for the species, and regulations are in place to reduce mortality from bycatch.

Range Atlantic Ocean

Status History
Designated Not at Risk in November 2010.

Mountain Sucker ***Catostomus platyrhynchus*** **Not at Risk**
Saskatchewan - Nelson River populations
Assessment Criteria not applicable

Reason for Designation
This small freshwater fish is relatively widespread in the Saskatchewan River drainage across many tributaries both in Alberta and Saskatchewan. Threats to the populations are relatively localized and not of imminent concern to the species persistence across its range.

Range AB SK

Status History
The species was considered a single unit and designated Not at Risk in April 1991. Split into three populations in November 2010. The "Saskatchewan - Nelson River populations" unit was designated Not at Risk in November 2010.

Atlantic Salmon ***Salmo salar*** **Data Deficient**

Nunavik population

Assessment Criteria not applicable

Reason for Designation

This species requires rivers or streams that are generally clear, cool and well-oxygenated for reproduction and several years of rearing, but undertakes lengthy feeding migrations in the North Atlantic Ocean as older juveniles and adults. This population, which breeds in rivers flowing into Ungava Bay and eastern Hudson Bay, is the northernmost population of the species in North America, and the westernmost population of the entire species. It is separated by approximately 650 km from the nearest population to the south. Little is known about abundance trends in this population, although limited catch per unit effort data suggest increased abundance in recent years.

Range QC NL Atlantic Ocean

Status History

Species considered in November 2010 and placed in the Data Deficient category.

Chestnut Lamprey ***Ichthyomyzon castaneus*** **Data Deficient**

Great Lakes - Upper St. Lawrence populations

Assessment Criteria not applicable

Reason for Designation

Insufficient information exists for assessment purposes. The occurrence of this species in the Great Lakes – Upper St. Lawrence basin has been confirmed with recent collections of 2 adults and correction to the identification of 4 adults from museum collections. No further information on distribution, abundance or habitat is available for this species.

Range ON QC

Status History

The species was considered a single unit and designated Special Concern in April 1991. Split into two populations in November 2010. The "Great Lakes - Upper St. Lawrence populations" unit was considered in November 2010 and placed in the Data Deficient category.

Chestnut Lamprey ***Ichthyomyzon castaneus*** **Data Deficient**

Saskatchewan - Nelson River populations

Assessment Criteria not applicable

Reason for Designation

Insufficient information exists for assessment purposes. This species' Saskatchewan – Nelson River populations unit is broadly distributed but has not been abundant where surveyed. It has been observed at 20 sites in total in this region. No information is available on population size or trends. Although prairie rivers are generally subject to agriculturally derived sedimentation, herbicides, pesticides and eutrophication, no information is available on specific threats to this species.

Range SK MB ON

Status History

The species was considered a single unit and designated Special Concern in April 1991. Split into two populations in November 2010. The "Saskatchewan - Nelson River populations" unit was was considered in November 2010 and placed in the Data Deficient category.

Arthropods

Skillet Clubtail ***Gomphus ventricosus*** **Endangered**
Assessment Criteria B1ab(iii)+2ab(iii)

Reason for Designation
This rare dragonfly of large, clean, and fast flowing rivers with fine sand, silt, or clay bottoms is currently known in only 3 locations in Canada. It disappeared over 60 years ago from two other rivers. The largest population is subject to a number of threats that are cumulatively leading to a decline in the quality of habitat.

Range NB

Status History
Designated Endangered in November 2010.

Molluscs

Rocky Mountain Ridged Mussel ***Gonidea angulata*** **Endangered**
Assessment Criteria B1ab(i,ii,iii,v)+2ab(i,ii,iii,v)

Reason for Designation
This mussel, one of only a few species of freshwater mussel in British Columbia, is restricted in Canada to the Okanagan basin. Historically, channelization and water regulation in the Okanagan River have affected mussel beds and caused population reduction. Additional sites have been found since the original COSEWIC assessment (2003). Currently, Zebra and Quagga (dreissenid) Mussels are the most serious potential threat to the native mussel. Dreissenid mussels have had devastating effects on native unionid communities elsewhere, such as in the Great Lakes region. A recent assessment of the sensitivity of the Okanagan basin to dreissenid mussels demonstrated that the latter could spread quickly and establish intense infestation on native mussels once introduced. Within the foreseeable future, the introduction of dreissenids into the Okanagan basin is likely because they can survive for days out of water and are known to be transported between water bodies on trailered watercrafts; dreissenid mussels have been intercepted on trailered boats heading to British Columbia in recent years. Ongoing foreshore and riparian development, and some methods of control of invasive Eurasian Watermilfoil reduces habitat and affects water quality.

Range BC

Status History
Designated Special Concern in November 2003. Status re-examined and designated Endangered in November 2010.

Vascular Plants

Nodding Pogonia ***Triphora trianthophora*** **Endangered**
Assessment Criteria B1ab(iii)+2ab(iii)

Reason for Designation
This small showy orchid of rich woodland soils undergoes variable periods of dormancy. In Canada, this species is known from only two populations in southwestern Ontario, one of which has not been observed in more than 20 years. About 1400 flowering stems were documented at one site in 2008 during a year of high rainfall, in contrast to a decade previously when the Canadian population was documented as consisting of only 50 individuals. Although grazing by deer has been reduced, invasive plants have contributed to a loss in habitat quality and exotic earthworms are likely the cause of the reduction of the organic layer of the forest floor. Chance events could also impact the population.

Range ON

Status History
Designated Threatened in April 1988. Status re-examined and designated Endangered in April 1999. Status re-examined and confirmed in May 2000 and November 2010.

Seaside Birds-foot Lotus ***Lotus formosissimus*** **Endangered**
Assessment Criteria B1ab(iii)+2ab(iii)

Reason for Designation
This showy perennial has a highly restricted range limited to a few sites of vernal pools and areas of seepage in Garry Oak ecosystems of southeastern Vancouver Island. Its small populations appear stable but are under continued threat from loss of habitat resulting from succession by woody species, spread of invasive plant species, and grazing by introduced rabbits.

Range BC

Status History
Designated Endangered in April 1996. Status re-examined and confirmed in May 2000 and November 2010.

Showy Goldenrod ***Solidago speciosa*** **Endangered**
Great Lakes Plains population
Assessment Criteria B1ab(iii,v)+2ab(iii,v); C1

Reason for Designation
Two small populations of this showy perennial occur in remnant tallgrass prairie habitats in southwestern Ontario. Substantial declines in the number of mature individuals and the quality of habitat have been recorded and are projected to continue. Limiting factors include the encroachment of woody plants due to the lack of regular burning of the prairie habitats and other impacts such as the spread of invasive exotic plants, and seed predation that reduces the species' ability to reproduce.

Range ON

Status History
The species was considered a single unit and designated Endangered in April 1999. Status re-examined and confirmed in May 2000. Split into two populations in November 2010. The Great Lakes Plains population was designated Endangered in November 2010.

Skinner's Agalinis ***Agalinis skinneriana*** **Endangered**
Assessment Criteria B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)

Reason for Designation
A highly restricted annual species of tallgrass prairie known in Canada from only two populations in southwestern Ontario. Recent losses of subpopulations have resulted in a decline in range, habitat area and quality, and number of mature individuals.

Range ON

Status History
Designated Endangered in April 1988. Status re-examined and confirmed Endangered in April 1999, May 2000, and November 2010.

White Prairie Gentian ***Gentiana alba*** **Endangered**
Assessment Criteria B1ab(iii)+2ab(iii); D1

Reason for Designation
This showy perennial exists in Canada as a single small population within a remnant oak savannah habitat in southwestern Ontario. The small population size and impacts from potential threats such as increased shading, trampling, and genetic contamination through hybridization with a common native species of gentian, places the species at on-going risk.

Range ON

Status History
Designated Endangered in April 1991. Status re-examined and confirmed in May 2001 and November 2010.

Purple Twayblade ***Liparis liliifolia*** **Threatened**
Assessment Criteria C2a(i); D1

Reason for Designation
This small inconspicuous orchid extends across southern Ontario to southwestern Quebec as a series of scattered populations. The discovery of several new populations in recent years has extended its known range in Canada. The few individuals present in the majority of the populations and the overall small size of the entire Canadian population places the species at continued risk from chance events.

Range ON QC

Status History
Designated Threatened in April 1989. Status re-examined and designated Endangered in April 1999 and in May 2001. Status re-examined and designated Threatened in November 2010.

Showy Goldenrod ***Solidago speciosa*** **Threatened**
Boreal population
Assessment Criteria D1

Reason for Designation
A morphologically and ecologically distinct population has recently been found at a single location in northwestern Ontario. It occurs in a geographically distinct area from the Great Lakes Plains population. This small population may consist of only about 1000 individuals. Such geographically restricted small populations are potentially subject to negative chance events.

Range ON

Status History
The species was considered a single unit and designated Endangered in April 1999. Status re-examined and confirmed in May 2000. Split into two populations in November 2010. The Boreal population was designated Threatened in November 2010.

Dwarf Lake Iris ***Iris lacustris*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation
This globally vulnerable Great Lakes endemic is a small clonal perennial iris restricted in Canada to areas near the shore of Lake Huron in Ontario. Of 40 extant Canadian populations consisting of over 50 million stems, two thirds occur outside of protected areas and are susceptible to shoreline development. This species is also sensitive to road construction, trampling, and fire suppression. However, recent survey efforts, which greatly increased the known number of populations and number of plants, have reduced the level of risk for this species.

Range ON

Status History
Designated Threatened in November 2004. Status re-examined and designated Special Concern in November 2010.

Pitcher's Thistle ***Cirsium pitcheri*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation
This globally vulnerable endemic thistle of the Great Lakes occupies a small area including a series of sandy shoreline habitats from southeastern Lake Huron to Pukaskwa National Park on the north shore of Lake Superior. The species' core range in Canada occurs along the southern margin of Manitoulin Island and nearby islands. Increases in population size and number have occurred over the past decade due to increased surveys. This species is at continued but reduced risk because of its specialized life history of flowering and reproducing only once at age 3-11 years before dying, its mainly small populations that undergo fluctuation, and ongoing habitat impacts from a variety of causes. Such threats as recreational ATV use in the species' habitat, presence of an exotic grass (Common Reed) and spread of woody plants into its habitat affect various populations.

Range ON

Status History
Designated Threatened in April 1988. Status re-examined and designated Endangered in April 1999. Status re-examined and confirmed in May 2000. Status re-examined and designated Special Concern in November 2010.

Mosses

Roell's Brotherella Moss ***Brotherella roellii*** **Endangered**
Assessment Criteria C2a(i); D1

Reason for Designation
This moss is endemic to western North America, where all known extant populations occur in the densely populated south-western mainland area of British Columbia. Extensive collecting within and beyond this region has shown this species to occur only on hardwoods and rotten logs in remnant second-growth stands within urban areas. Twenty-nine individuals are known from nine of the 26 extant locations that have recently been verified. The species is subject to pressures from recreational use, road construction and urban, agricultural, resource and industrial development, all of which threaten the quantity of its preferred habitat and host trees and logs, as well as the quality of these habitats in terms of moisture levels and air quality.

Range BC

Status History
Designated Endangered in November 2010.

Lichens

Crumpled Tarpaper Lichen ***Collema coniophilum*** **Threatened**
Assessment Criteria D1

Reason for Designation
This foliose, tree-inhabiting cyanolichen is endemic to Canada where it occupies a narrow range restricted to trees in old-growth forests on calcareous soils in humid, inland British Columbia. The lichen is poorly adapted for dispersal since it has never been found with sexual reproductive structures and its vegetative propagules are not easily dispersed. The lichen has an apparently declining distribution, resulting from ongoing loss of old-growth forest through clear-cut logging. The factors underlying its rarity and narrow endemism are not well understood.

Range BC

Status History
Designated Threatened in November 2010.

Blue Felt Lichen ***Degelia plumbea*** **Special Concern**

Assessment Criteria not applicable

Reason for Designation
Within Canada, this lichen occurs only in the Atlantic region. It is very rare in New Brunswick, uncommon in Newfoundland, but more frequent in Nova Scotia. It grows as an epiphyte, predominately on hardwoods in woodlands and is vulnerable to disturbance that leads to a reduction in habitat humidity. The species is also very sensitive to acid rain. Forest harvesting is a threat to the species through direct removal or through the creation of an edge effect, leading to reduced humidity within the stand. In Newfoundland, the browsing of the lichen's host tree by a high density of moose is also of concern. Air pollution is a threat, especially in New Brunswick, but also in Nova Scotia.

Range NB NS NL

Status History
Designated Special Concern in November 2010.

*Assessment criteria and reasons for designation are included as needed when a review of classification is conducted by means of status appraisal. The status appraisal process is used when a review of classification is required and it is reasonably certain that the wildlife species' status has not changed from the previous assessment.
* The assessment of Rocky Mountain Tailed Frog (*Ascaphus montanus*) was deferred.

26/11/2010

COSEWIC Wildlife Species Assessments (detailed version), May 2011*

Results are grouped by taxon and then by status category. The range of occurrence in Canada (by province, territory or ocean) and history of status designation are provided for each wildlife species.

Mammals

Northern Bottlenose Whale — ***Hyperoodon ampullatus*** — **Endangered**
Scotian Shelf population

Assessment Criteria D1

Reason for Designation
This well-studied population contains an estimated 164 individuals, of which approximately 93 are mature. The population appears to be stable but it is very small and at risk from entanglement in fishing gear and possibly also from anthropogenic noise produced by seismic surveys for oil and gas and from exposure to contaminants.

Range Atlantic Ocean

Status History
The Northern Bottlenose Whale was given a single designation of Not at Risk in April 1993. Split into two populations in April 1996 to allow a separate designation of the Northern Bottlenose Whale (Scotian Shelf population). Scotian Shelf population designated Special Concern in April 1996. Status re-examined and designated Endangered in November 2002 and in May 2011.

Humpback Whale — ***Megaptera novaeangliae*** — **Special Concern**
North Pacific population

Assessment Criteria not applicable

Reason for Designation
Although this recovering population is no longer considered to be Threatened, it is not yet secure. It was depleted by commercial whaling but has increased substantially since becoming legally protected from whaling in 1966. A basin-wide study in 2004-2006 resulted in an estimated abundance of 18,000 animals (not including first-year calves) in the North Pacific and an estimated rate of increase of 4.9 to 6.8%/year. Research conducted between 2004-06 indicated that about 2,145 whales (not including first-year calves) were present seasonally in British Columbia waters where they were increasing at around 4%/year. Current numbers are still considerably smaller than the minimum of 4,000 animals that must have been present off the west coast of Vancouver Island in 1905 given the numbers removed by whaling in the early 1900's. This population in the eastern North Pacific continues to face several threats including noise disturbance, habitat degradation (especially on the breeding grounds), entanglement in fishing gear or debris, and ship strikes.

Range Pacific Ocean

Status History
The "Western North Atlantic and North Pacific populations" were given a single designation of Threatened in April 1982. Split into two populations in April 1985 (Western North Atlantic population and North Pacific population). The North Pacific population designated Threatened in 1985. Status re-examined and confirmed in May 2003. Status re-examined and designated Special Concern in May 2011.

Northern Bottlenose Whale ***Hyperoodon ampullatus*** **Special Concern**
Davis Strait-Baffin Bay-Labrador Sea population
Assessment Criteria not applicable

Reason for Designation
The population is of Special Concern for the following reasons: (1) numbers were likely reduced by whaling in the late 1960s and early 1970s when 818 whales were taken; (2) trends in population size since then are uncertain but survey sighting rates have been low; and (3) threats from fishery interactions are documented and ongoing. There is no abundance estimate. Entanglement in fishing gear is the primary known threat but noise and contaminants are also of concern. The whales in the Baffin Bay-Davis Strait-Labrador Sea region have been genetically linked to the population off Iceland so rescue is possible.

Range Atlantic Ocean

Status History
The Northern Bottlenose Whale was given a single designation of Not at Risk in April 1993. Split into two populations in April 1996 to allow a separate designation of the Northern Bottlenose Whale (Scotian Shelf population). The Davis Strait-Baffin Bay-Labrador Sea population was not assessed in 1996; it retained the Not at Risk designation of the original Northern Bottlenose Whale. The population was designated Special Concern in May 2011.

Birds

Henslow's Sparrow ***Ammodramus henslowii*** **Endangered**
Assessment Criteria C2a(i,ii); D1

Reason for Designation
In Canada, this species occurs sporadically in Ontario and Quebec. Its Canadian population is extremely small, ranging from 0 to 25 individuals depending on the year. Populations in adjacent parts of the U.S., which are a likely source of birds for Canada, are declining. Habitat loss is ongoing for this species.

Range ON QC

Status History
Designated Threatened in April 1984. Status re-examined and designated Endangered in April 1993. Status re-examined and confirmed in November 2000 and May 2011.

King Rail ***Rallus elegans*** **Endangered**
Assessment Criteria D1

Reason for Designation
This large member of the rail family is associated with marshes of various description – especially those that are large and relatively complex. Its breeding range extends from southern Ontario through much of the eastern U.S. In Canada, precise information on the population size, population trend, and breeding distribution of this rare and secretive species is somewhat limited. Nevertheless, the best available evidence indicates that the Canadian population remains small (fewer than 100 individuals). The major threat is degradation of high-quality marsh habitats across its range.

Range ON

Status History
Designated Special Concern in April 1985. Status re-examined and designated Endangered in April 1994. Status re-examined and confirmed in November 2000 and in May 2011.

Barn Swallow ***Hirundo rustica*** **Threatened**

Assessment Criteria A2b

Reason for Designation
This is one of the world's most widespread and common landbird species. However, like many other species of birds that specialize on a diet of flying insects, this species has experienced very large declines that began somewhat inexplicably in the mid to late 1980s in Canada. Its Canadian distribution and abundance may still be greater than prior to European settlement, owing to the species' ability to adapt to nesting in a variety of artificial structures (barns, bridges, etc.) and to exploit foraging opportunities in open, human-modified, rural landscapes. While there have been losses in the amount of some important types of artificial nest sites (e.g., open barns) and in the amount of foraging habitat in open agricultural areas in some parts of Canada, the causes of the recent population decline are not well understood. The magnitude and geographic extent of the decline are cause for conservation concern.

Range YT NT BC AB SK MB ON QC NB PE NS NL

Status History
Designated Threatened in May 2011.

Eastern Meadowlark ***Sturnella magna*** **Threatened**

Assessment Criteria A2b

Reason for Designation
This ground-nesting grassland specialist has seen major changes in its population size and breeding range since European settlement. Most of its native prairie habitat had fallen to the plough by the end of the 19th century. However, these habitat losses were effectively counter-balanced by the provision of large amounts of surrogate grasslands (primarily pastures and hayfields) as a result of the widespread conversion of eastern deciduous forests to agricultural land. The species initially responded with expansions in its breeding range (primarily eastward). Since the mid 20th century, however, the amount and quality of surrogate grasslands across its range have declined. Although the species' population is still relatively large, it has been undergoing persistent rangewide declines. These declines are believed to be driven mostly by ongoing loss and degradation of grassland habitat on both the breeding and wintering grounds, coupled with reduced reproductive success resulting from some agricultural practices.

Range ON QC NB NS

Status History
Designated Threatened in May 2011.

Barrow's Goldeneye ***Bucephala islandica*** **Special Concern**
Eastern population

Assessment Criteria not applicable

Reason for Designation
This population is found only in eastern regions of Canada. The population is small, but has been relatively stable over the last 10 years. Despite recent improvements in protection, threats from loss and degradation of forested habitats, in particular, are ongoing.

Range QC NB PE NS NL

Status History
Designated Special Concern in November 2000. Status re-examined and confirmed in May 2011.

Long-billed Curlew ***Numenius americanus*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation
In Canada, this large shorebird breeds in British Columbia, Alberta and Saskatchewan. Limited survey evidence suggests that the population has not changed significantly over the last 10 years, but there is anecdotal evidence suggesting regional declines. Historically, the extent and quality of its habitat has been significantly reduced by the conversion of native grasslands to agricultural crops and urban development. Ongoing threats include i) habitat loss and degradation from urban encroachment, cultivation of marginal native habitat and oil and gas development, ii) increased frequency of droughts associated with climate change, and iii) increase in predators associated with habitat fragmentation.

Range BC AB SK

Status History
Designated Special Concern in April 1992. Status re-examined and confirmed in November 2002 and May 2011.

Reptiles

Desert Nightsnake ***Hypsiglena chlorophaea*** **Endangered**
Assessment Criteria B1ab(iii)+2ab(iii)

Reason for Designation
This nocturnal and secretive snake occurs in arid and semi-arid regions of western North America, reaching its northern distributional limits within seasonally hot interior valleys of south-central British Columbia. Throughout its small Canadian distribution, expanding urban and agricultural developments and their associated infrastructures threaten habitats of the species. Scattered distribution pattern, small population size, and no possibility of rescue contribute to the vulnerability of the species and place it at imminent risk of extirpation.

Range BC

Status History
Designated Endangered in May 2001 and May 2011.

Amphibians

Spring Salamander ***Gyrinophilus porphyriticus*** **Extirpated**
Carolinian population
Assessment Criteria not applicable

Reason for Designation
No valid records in more than 50 years.

Range ON

Status History
The species was considered a single unit and designated Special Concern in April 1989 and May 2002. Split into two populations in May 2011. The Carolinian population was designated Extirpated in May 2011.

Blanchard's Cricket Frog ***Acris blanchardi*** **Endangered**
Assessment Criteria B1ab(iii)+2ab(iii); D1

Reason for Designation
This small frog is widespread, but declining rapidly, in the U.S. In Canada, it is known only from extreme southwest Ontario. There have been no confirmed records in Canada since the early 1970s despite frequent searches. However, there have been unconfirmed reports of the species as recently as the mid-1990s. Consequently, it is slightly possible that the species still exists in Canada. Threats to this frog include destruction and alteration of its habitat and effects of pesticides, herbicides and other contaminants.

Range ON

Status History
Designated Endangered in April 1990. Status re-examined and confirmed in May 2001 and May 2011.

Oregon Spotted Frog ***Rana pretiosa*** **Endangered**
Assessment Criteria B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v); C2a(i)

Reason for Designation
This highly aquatic frog has a small Canadian distribution within the populated and highly modified Fraser River Basin in southwestern British Columbia. It currently occurs at four sites, isolated from one another, and has been extirpated from an additional three sites. One extant population is near extinction, and the remaining populations are small and vulnerable to disturbance and stochastic events. Habitat loss and fragmentation, hydrological alteration, disease, introduced predators, and poor water quality continue to threaten remnant populations.

Range BC

Status History
Designated Endangered in an emergency assessment on 13 September 1999. Status re-examined and confirmed in May 2000 and in May 2011.

Spring Salamander ***Gyrinophilus porphyriticus*** **Threatened**
Adirondack / Appalachian population
Assessment Criteria B1ab(ii,iii,iv,v)+2ab(ii,iii,iv,v)

Reason for Designation
This species occurs in clear, cool headwater streams in the Appalachians and Adirondacks of southeastern Québec. The species' habitat is threatened by several kinds of development, including ski resorts, windfarms and golf courses that may alter water availability in the streams. Similarly, forestry activities affect the salamander's habitat by reducing shade, altering stream temperatures and increasing silt. Introduction of predatory game fish is also a severe threat to the species' larvae and adults.

Range QC

Status History
The species was considered a single unit and designated Special Concern in April 1989 and May 2002. Split into two populations in May 2011. The Adirondack / Appalachian population was designated Threatened in May 2011.

Fishes

Atlantic Bluefin Tuna ***Thunnus thynnus*** **Endangered**

Assessment Criteria A2b

Reason for Designation
This iconic fish has been heavily exploited for over 40 years and the current abundance of spawning individuals is the lowest observed. Fishing is the main threat to the viability of the species and despite management efforts for the past 30 years to rebuild the population, there is little sign of population increase. The abundance of spawning fish has declined by 69% over the past 2.7 generations. While the cause of the decline, overfishing, is understood, it has not ceased and it is not clearly reversible. The spawning segment of the species was exposed to the Deepwater Horizon oil spill in a portion of its spawning area in the Gulf of Mexico. While the effects of the spill on the species are currently unknown, it may represent an additional threat.

Range Atlantic Ocean

Status History
Designated Endangered in May 2011.

Eulachon ***Thaleichthys pacificus*** **Endangered**

Central Pacific Coast population

Assessment Criteria A2b+4b

Reason for Designation
This short-lived semelparous species is extremely rich in lipid and spends over 95% of its life in the marine environment. All of the populations in the Central Pacific Coast area are substantially lower than what supported large First Nations fisheries in the 1800s and before. Each river for which there are records has experienced drastic declines in run size, some to the point of virtual extirpation including the Kitimat, Kemano, Bella Coola, and those in Rivers Inlet. Substantial declines have also been documented for the Kingcome and Klinaklini Rivers, however there remain modest returns in these areas.

Range BC Pacific Ocean

Status History
Designated Endangered in May 2011.

Eulachon ***Thaleichthys pacificus*** **Endangered**

Fraser River population

Assessment Criteria A2b+4b; B2ab(v)

Reason for Designation
This short-lived semelparous species is extremely rich in lipid and spends over 95% of its life in the marine environment. This population's spawning biomass reached a historic low of only 10 t in 2008. The long term average spawning biomass on the Fraser River may have been about 1000 t. Based on the available spawning stock biomass time series, the 10-year decline rate was estimated to be 98%. The single small spawning area constitutes a single location.

Range BC Pacific Ocean

Status History
Designated Endangered in May 2011.

Atlantic Sturgeon ***Acipenser oxyrinchus*** **Threatened**
St. Lawrence populations
Assessment Criteria D2

Reason for Designation
This large-bodied, slow-growing, and late-maturing fish consists of a small breeding population spawning within a relatively small area. The species is exploited in a regulated commercial fishery, but limited monitoring of the effects of this fishery make the viability of this population highly uncertain.

Range QC Atlantic Ocean

Status History
Designated Threatened in May 2011.

Atlantic Sturgeon ***Acipenser oxyrinchus*** **Threatened**
Maritimes populations
Assessment Criteria D2

Reason for Designation
This large-bodied, slow-growing and late-maturing fish spawns only within the lower Saint John River area. The species has a relatively small breeding population and is subject to regulated commercial and recreational fisheries. These fisheries, however, receive limited monitoring in terms of their effects on this species making its viability highly uncertain.

Range NB NS Atlantic Ocean

Status History
Designated Threatened in May 2011.

Eulachon ***Thaleichthys pacificus*** **Threatened**
Nass / Skeena Rivers population
Assessment Criteria A2b+4b

Reason for Designation
This short-lived semelparous species is extremely rich in lipid and spends over 95% of its life in the marine environment. Current run sizes in the Nass/Skeena area are estimated to be less than 10% of what they were in the 1800s when annual First Nation harvests were in the range of 2000 t. Recent data from this area indicate the population is declining and the level of abundance in adjacent areas has declined substantially in the recent past.

Range BC Pacific Ocean

Status History
Designated Threatened in May 2011.

Silver Shiner ***Notropis photogenis*** **Threatened**
Assessment Criteria B1ab(iii)+2ab(iii)

Reason for Designation
This small riverine fish is found at fewer than 10 locations and has a small area of occupancy. The susceptibility of the species to continuing habitat loss and degradation with increasing development pressure resulted in an increase in status.

Range ON

Status History
Designated Special Concern in April 1983. Status re-examined and confirmed in April 1987. Status re-examined and designated Threatened in May 2011.

Silver Lamprey ***Ichthyomyzon unicuspis*** **Special Concern**
Great Lakes - Upper St. Lawrence populations
Assessment Criteria not applicable

Reason for Designation
This small parasitic lamprey is found in the Great Lakes – St. Lawrence River basin. The lamprey is susceptible to lampricide treatments that target invasive Sea Lamprey. There are also several other ongoing threats from small dams, habitat alterations, and pollution from herbicide treatments.

Range ON QC

Status History
Designated Special Concern in May 2011.

Silver Lamprey ***Ichthyomyzon unicuspis*** **Data Deficient**
Saskatchewan - Nelson Rivers populations
Assessment Criteria not applicable

Reason for Designation
This small parasitic lamprey is thought to be relatively widespread within the Nelson River and Red River watersheds although its status is unknown. Directed surveys for distribution and abundance have not been conducted and data on trends are unavailable. In addition, many occurrence records may be based on larvae where reliable morphological separation from other lampreys is not possible.

Range MB ON

Status History
Species considered in May 2011 and placed in the Data Deficient category.

Arthropods

Hine's Emerald ***Somatochlora hineana*** **Endangered**
Assessment Criteria B1ab(iii)+2ab(iii)

Reason for Designation
This dragonfly, which is rare throughout its range, is known from only one Canadian location where habitat decline is considered likely due to urban development and invasive species.

Range ON

Status History
Designated Endangered in May 2011.

Hungerford's Crawling Water Beetle ***Brychius hungerfordi*** **Endangered**
Assessment Criteria B1ab(iii)+2ab(iii)

Reason for Designation
A probable early postglacial relict, this water beetle is endemic to the upper Great Lakes and is Endangered in the US. In Canada, it is restricted to a small area and is known from only 3 locations in Ontario. This species has declined and may be extirpated at the North Saugeen River. It is threatened by further planned developments at the North Saugeen and Saugeen River locations, by hydrological alterations at the Rankin River location, and by continuing declines in water quality due to events associated with increasing human population at all locations.

Range ON

Status History
Designated Endangered in May 2011.

Macropis Cuckoo Bee ***Epeoloides pilosulus*** **Endangered**
Assessment Criteria B2ab(iii)

Reason for Designation
This species is a habitat specialist, requiring both a suitable host (*Macropis* bees) and their host's foodplant. The foodplant requires moist habitat and the host bee requires sunny, sandy slopes for its nest site. Historically in Canada, this species was known from six sites across five provinces. Despite recent increases in bee surveying activity nationwide, it has been found in Canada only once in the past fifty years and has not been seen again at this locality or nearby despite recent extensive searches. With only one location and a predicted continuing decline in habitat area and quality, this species is at imminent risk of extinction.

Range NS

Status History
Designated Endangered in May 2011.

Olive Clubtail ***Stylurus olivaceus*** **Endangered**
Assessment Criteria B2ab(iii)

Reason for Designation
This highly rare, stream-dwelling dragonfly with striking blue eyes is known from only 5 locations within three separate regions of British Columbia. It is restricted to small areas along warm lowland rivers, and infrequently lakes, where continuing decline in the quality of habitat is occurring. Threats include loss and disturbance of habitat due to human activity, such as beach recreation, impacts of invasive species of fish, invasive aquatic plants, and pollution by pesticides and fertilizing nutrients.

Range BC

Status History
Designated Endangered in May 2011.

Taylor's Checkerspot ***Euphydryas editha taylori*** **Endangered**
Assessment Criteria B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)

Reason for Designation
The historic range of this small, eye-catching butterfly in Canada was wider and included south-eastern Vancouver Island. Now it only occurs in a very small area on Denman Island, BC. The habitat it occupies is likely to continue to decline in area and quality. Threats include habitat loss and degradation due to development, natural forest succession and the spraying of bacterial insecticide to control pest insects. Individual ownership issues exacerbate the combination of these and other threats.

Range BC

Status History
Designated Endangered in November 2000 and in May 2011.

Dune Tachinid Fly ***Germaria angustata*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation
This rare fly is restricted to a very small area of unglaciated Beringia in southwestern Yukon. It is known from 11 largely isolated locations where it occurs in active to semi-stabilized dunes. It is a parasite of the larvae of a dune moth. The threats include a continuing decline in habitat caused by succession on dunes and the use of all-terrain vehicles in some areas which destroy required dune vegetation.

Range YT

Status History
Designated Special Concern in May 2011.

Molluscs

Hickorynut ***Obovaria olivaria*** **Endangered**
Assessment Criteria A2c+4c

Reason for Designation
This freshwater mussel lives in mid-sized to large rivers in southern Ontario and Quebec. There has been an historical decline in the species' distribution with losses of the populations in the Detroit and Niagara rivers. Other locations are threatened by the continuing invasion of dreissenid mussels. In addition, the one known host of this mussel, the Lake Sturgeon, is at risk and may be declining in some locations where the mussel is known to still occur. The species is also affected by degraded water quality in many freshwater systems in southern Ontario and Quebec.

Range ON QC

Status History
Designated Endangered in May 2011.

Salamander Mussel ***Simpsonaias ambigua*** **Endangered**
Assessment Criteria B1ab(iii)+2ab(iii)

Reason for Designation
This freshwater mussel was reported from two rivers in southern Ontario in 1998. Surveys since the original COSEWIC assessment (2001) have found live individuals still along the Sydenham River. Despite extensive additional sampling, the half-shell found in 1998 is the only evidence of this species along the Thames River. Habitat quality continues to decline from intense agriculture, urban development, and pollution from point and non-point sources. In addition, this mussel only uses the Mudpuppy, a salamander, as its host; threats to the salamander are also threats to the mussel.

Range ON

Status History
Designated Endangered in May 2001. Status re-examined and confirmed in May 2011.

Olympia Oyster ***Ostrea lurida*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation
This species is the only native oyster along the Pacific coast of Canada. Although its population suffered large-scale historical declines associated with overharvest, it appears to have been stable in recent decades. However, recent introductions of exotic parasites, predatory snails, green crabs and fouling ascidians, as well as industrial and domestic pollution, pose significant threats to the oyster. Limited dispersal and vulnerability to low temperature extremes and sedimentation from floods and landslides may increase its vulnerability and ability to recover from adverse impacts.

Range BC Pacific Ocean

Status History
Designated Special Concern in November 2000 and in May 2011.

Vascular Plants

Furbish's Lousewort ***Pedicularis furbishiae*** **Endangered**
Assessment Criteria C2a(i)

Reason for Designation
This plant exists at low numbers in a dynamic and restricted habitat along the Saint John River in New Brunswick. Changes to river dynamics, land clearing of buffer trees, recreational activities, and the introduction of invasive species have resulted in continuing population decline at the existing sites.

Range NB

Status History
Designated Endangered in April 1980. Status re-examined and confirmed Endangered in April 1998, May 2000, and May 2011.

Long's Braya ***Braya longii*** **Endangered**
Assessment Criteria B1ab(v)+2ab(v)

Reason for Designation
This regionally restricted Canadian endemic is known only from five sites within the limestone barrens on the island of Newfoundland. Since it was last assessed as Endangered in 2000, this species continues to experience declines in total population size and increases in the number and severity of biotic threats, which include the non-native Diamondback Moth and two pathogens.

Range NL

Status History
Designated Endangered in April 1997. Status re-examined and confirmed in May 2000 and May 2011.

Small Whorled Pogonia ***Isotria medeoloides*** **Endangered**
Assessment Criteria A2a; B1ab(iii)+2ab(iii); D1

Reason for Designation
This small orchid, previously known only from a single swamp in Ontario, requires mixed damp woods. It was assessed as Endangered in 2000. Its habitat continues to decline in quality due to trampling and exotic earthworms. It was last seen in 1998, though its potential for dormancy means it may still be extant.

Range ON

Status History
Designated Endangered in April 1982. Status re-examined and confirmed in April 1998, May 2000, and May 2011.

Southern Maidenhair Fern ***Adiantum capillus-veneris*** **Endangered**
Assessment Criteria A2b; B1ab(i,iii,v)+2ab(i,iii,v)c(iv); C2b

Reason for Designation
This delicate fern is known in Canada from three to four subpopulations in a single natural hot spring in southeastern British Columbia. It is threatened by changes in hydrology, development, recreational activities and collection, and is limited by availability of suitable microhabitat conditions. Large declines (greater than 90%) have been recorded in the past 10 years, though the plant may remain dormant underground and one subpopulation has rebounded after four survey years in which few or no fronds were detected.

Range BC

Status History
Designated Endangered in April 1984. Status re-examined and confirmed in April 1998, May 2000, and May 2011.

Lyall's Mariposa Lily ***Calochortus lyallii*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation
This species is a distinctive, long-lived perennial with a small range in Canada. It is known from only 5 populations in forest openings and sagebrush grasslands in southern BC, near Osoyoos. Plants emerge from underground bulbs in late spring, but are capable of remaining dormant for one or more years. This plant was formerly designated Threatened, but most of the area where it occurs has been designated as a provincial protected area, and the main threats, related to grazing and forest management, have now been mitigated.

Range BC

Status History
Designated Threatened in May 2001. Status re-examined and designated Special Concern in May 2011.

Mosses

Poor Pocket Moss ***Fissidens pauperculus*** **Endangered**
Assessment Criteria D1

Reason for Designation
This western North American endemic reaches its northern range limit at a single, isolated Canadian locality in southwestern British Columbia. Here, it occurs as several small colonies within a geographically restricted area, making the Canadian population especially vulnerable to human disturbance and events such as unusually heavy local rainfall, erosion, and treefall.

Range BC

Status History
Designated Endangered in November 2001 and May 2011.

Lichens

Batwing Vinyl Lichen ***Leptogium platynum*** **Endangered**
Assessment Criteria B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v)

Reason for Designation
This leafy lichen occurs in western North America reaching the northern limit of its range in coastal south-western British Columbia where it commonly occurs at three, possibly four, locations on Vancouver Island. The lichen grows on calcium/magnesium-rich rock outcrops and more than 80% of individuals occur at one location. It has been extirpated from three other locations. This lichen is vulnerable to stochastic events, competition from mosses and liverworts, pollution from industrial/agricultural activities, and increasingly frequent summer drought resulting from climate change.

Range BC

Status History
Designated Endangered in May 2011.

Peacock Vinyl Lichen ***Leptogium polycarpum*** **Special Concern**

Assessment Criteria not applicable

Reason for Designation

This jellyskin lichen, endemic to western North America, reaches the limit of its northern distribution in Canada where it is known from only 13 locations in the coastal forests of south western British Columbia with one isolated location in Haida Gwaii. This lichen grows on deciduous trees, especially Bigleaf Maple and Red Alder. Almost 1000 individuals of this lichen are known but confined to only 67 trees. In addition to stochastic events, threats to this sensitive lichen include air pollution from industrial and agricultural activities, forestry and associated infrastructure as well as seasonal drought due to climate change.

Range BC

Status History

Designated Special Concern in May 2011.

*Aurora Trout *(Salvelinus fontinalis timagamiensis)* was determined to be ineligible for assessment. Gattinger's Agalinis *(Agalinis gattingeri)* and Buffalograss *(Buchloë dactyloides)* were withdrawn. The review of classification of the Coastal Giant Salamander *(Dicamptodon tenebrosus)* was completed. COSEWIC decided that a fully updated status report is required to assess the status of this wildlife species.

08/12/2011

APPENDIX II

COSEWIC
Committee on the Status of Endangered Wildlife in Canada

COSEPAC
Comité sur la situation des espèces en péril au Canada

10 Years On: Recovery Elusive for Species at Risk in Canada

Two birds considered extremely rare to Canada were both re-assessed as Endangered despite recovery initiatives. The White-headed Woodpecker and Sage Thrasher are just two of the 52 Canadian wildlife species that were assessed for risk of extinction or extirpation by COSEWIC (Committee on the Status of Endangered Wildlife in Canada) when it met in Ottawa, November 22-26, 2010. Of the thirty-two species that were re-assessed after 10 years, as required by the *Species at Risk Act*, only four were found to be less at risk.

Fewer than 100 of the spectacular White-headed Woodpecker nest in southeastern British Columbia. This bird depends on mature Ponderosa Pine forests which continue to decline due to severe fires and Mountain Pine Beetle infestations. Even rarer is the Sage Thrasher. Although never common in BC, Alberta or Saskatchewan, the total population of this small brown songbird in Canada ranges from only seven to 36 individuals. Loss of sagebrush habitat, used for nesting, is undoubtedly responsible for declines of this bird in Canada.


Photo @ Jared Hobbs

Although increased efforts to survey rare plants in Ontario resulted in larger population estimates for the Dwarf Lake Iris; habitat degradation still plagues species with extremely limited ranges in the Great Lakes region of Ontario and Québec. Two small orchids, the Nodding Pogonia which was assessed as Endangered and the Purple Twayblade, a Threatened species, are highly vulnerable to ongoing habitat alterations associated with invasive plants, introduced earthworms, and land development. The Endangered White Prairie Gentian, a large showy perennial known for its traditional medicinal uses, now exists as only a single small population in southern Ontario where its savannah habitat is protected from degradation by the Walpole Island First Nation.

Two Iconic Canadian Fishes at Risk

The Atlantic Salmon, one of the world's most commonly farmed marine fishes, has suffered declines in the wild, particularly in southern parts of its Canadian range. Regardless of ongoing activities to rebuild stocks, one population in southern Newfoundland was designated as Threatened, and five populations in the Bay of Fundy, outer coast of Nova Scotia and Anticosti Island were assessed as Endangered. The unique Lake Ontario population was considered Extinct. To the north, the situation is not as dire. Populations in the Gulf of St. Lawrence were assessed as Special Concern and three of the most northern populations in Canada were considered Not at Risk; relatively pristine rivers and improved fisheries management likely explain the stable to increasing abundance of these northern populations.

Aboriginal Traditional Knowledge contributed significantly to understanding the biology and threats for Dolly Varden, a trout-like fish of great significance to the people of the western Arctic. Despite the relative health of these populations, climate change poses a significant risk. This factor, in addition to the sensitivity of this fish to habitat impacts and fishing pressure, resulted in a designation of Special Concern.

Zebra Mussel Now Threatens Species West of the 100th Meridian

The Rocky Mountain Ridged Mussel is a large conspicuous freshwater mussel residing in the Okanagan Lake basin. Its restricted range coupled with the threat of the invasive Zebra Mussel and burgeoning lakeshore development elevated the risks to this species which led to an assessment of Endangered from a previous assessment of Special Concern.

Some Cause for Optimism

The case of the Barndoor Skate does give cause for some optimism. This large, distinctive marine fish experienced severe population declines and was virtually undetectable in Canadian waters for two decades. Reduced fishing pressure has contributed to significant increases in the Barndoor Skate since the 1990s. While this skate has not fully recovered to historical levels, the fish was assessed as Not at Risk.

Next Meeting

COSEWIC's next scheduled wildlife species assessment meeting will be held in Charlottetown, PEI, May 1-6, 2011.

About COSEWIC

COSEWIC assesses the status of wild species, subspecies, varieties, or other important units of biological diversity, considered to be at risk in Canada. To do so, COSEWIC uses scientific, Aboriginal traditional and community knowledge provided by experts from governments, academia and other organizations. Summaries of assessments are currently available to the public on the COSEWIC website (www.cosewic.gc.ca) and will be submitted to the Federal Minister of the Environment in late summer 2011 for listing consideration under the *Species at Risk Act* (SARA). At that time, the full status reports and status appraisal summaries will be publicly available on the Species at Risk Public Registry (www.sararegistry.gc.ca).

There are now 617 wildlife species in various COSEWIC risk categories, including 270 Endangered, 153 Threatened, 172 Special Concern, and 22 Extirpated (i.e. no longer found in the wild in Canada). In addition to these wildlife species that are in COSEWIC risk categories, there are 14 wildlife species that are Extinct.

COSEWIC comprises members from each provincial and territorial government wildlife agency, four federal entities (Canadian Wildlife Service, Parks Canada Agency, Fisheries and Oceans Canada, and the Federal Biodiversity Information Partnership, chaired by the Canadian Museum of Nature), three Non-government Science Members, and the Co-chairs of the Species Specialist and the Aboriginal Traditional Knowledge Subcommittees.

Definition of COSEWIC terms and status categories:

Wildlife Species: A species, subspecies, variety, or geographically or genetically distinct population of animal, plant or other organism, other than a bacterium or virus, that is wild by nature and is either native to Canada or has extended its range into Canada without human intervention and has been present in Canada for at least 50 years.
Extinct (X): A wildlife species that no longer exists.
Extirpated (XT)*: A wildlife species that no longer exists in the wild in Canada, but exists elsewhere.
Endangered (E)*: A wildlife species facing imminent extirpation or extinction.
Threatened (T)*: A wildlife species that is likely to become Endangered if nothing is done to reverse the factors leading to its extirpation or extinction.
Special Concern (SC)*: A wildlife species that may become Threatened or Endangered because of a combination of biological characteristics and identified threats.
Not at Risk (NAR): A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances.
Data Deficient (DD): A category that applies when the available information is insufficient (a) to resolve a wildlife species' eligibility for assessment or (b) to permit an assessment of the wildlife species' risk of extinction.

*denotes a COSEWIC risk category

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Dr. Marty L. Leonard Chair, COSEWIC Department of Biology Dalhousie University Halifax NS B3H 4J1 Telephone: (902) 494-2158 mleonard@dal.ca	For general inquiries: COSEWIC Secretariat c/o Canadian Wildlife Service Environment Canada Ottawa ON K1A 0H3 Telephone: (819) 953-3215 Fax: (819) 994-3684 cosewic/cosepac@ec.gc.ca www.cosewic.gc.ca
For inquiries on Aboriginal Traditional Knowledge: (Dolly Varden, White Prairie Gentian) **Henry Lickers** Mohawk Council of Akwesasne Department of the Environment Telephone: (613) 936-1548 Fax: (613) 938-6760 Henry.Lickers@akwesasne.ca	For inquiries on marine mammals: (Northern Fur Seal) **Dr. Jane Watson** Vancouver Island University Telephone: (250) 753-3245 local 2317 Fax: (250) 740-6482 Jane.Watson@viu.ca
For inquiries on terrestrial mammals: (Eastern Mole, Pallid Bat, Woodland Vole) **Dr. Justina C. Ray** Executive Director and Senior Scientist Wildlife Conservation Society Canada Telephone: (416) 850-9038 x 22 Fax: (416) 850-9040 jray@wcs.org	For inquiries on birds: (Barn Owl, Cerulean Warbler, Sage Thrasher White-headed Woodpecker) **Jon McCracken** Director National Programs Bird Studies Canada Telephone: (519) 586-3531 ext. 115 Fax: (519) 586-3532 jmccracken@bsc-eoc.org
For inquiries on amphibians and reptiles: (Butler's Gartersnake, Jefferson Salamander, Timber Rattlesnake) **Dr. Ronald J. Brooks** Department of Integrative Biology College of Biological Science University of Guelph Telephone: (519) 824-4120 ext. 53944 Fax: (519) 767-1656 rjbrooks@uoguelph.ca	For inquiries on freshwater fishes: (Atlantic Whitefish, Chestnut Lamprey, Columbia Sculpin, Dolly Varden, Mountain Sucker, Shorthead Sculpin) **Dr. Eric B. (Rick) Taylor** Professor Department of Zoology University of British Columbia Telephone: (604) 822-9152 Fax: (604) 822-2416 etaylor@zoology.ubc.ca

For inquiries on marine fishes: (Atlantic Salmon, Barndoor Skate) **Dr. Paul Bentzen** Professor Department of Biology Dalhousie University Telephone: (902) 494-1105 Fax: (902) 494-3736 Paul.Bentzen@dal.ca	For inquiries on arthropods (insects and related taxa): (Skillet Clubtail) **Dr. Paul Catling** Research Scientist and Curator Agriculture Canada Telephone: (613) 759-1373 Fax: (613) 759-1599 catlingp@agr.gc.ca
For inquiries on molluscs: (Rocky Mountain Ridged Mussel) **Robert Forsyth** Telephone: (250) 847-6699 r.forsyth@telus.net	For inquiries on plants: (Showy Goldenrod, Dwarf Lake Iris, Nodding Pogonia, Pitcher's Thistle, Purple Twayblade, Seaside Birds–foot Lotus, Skinner's Agalinis, White Prairie Gentian) **Dr. Erich Haber** Telephone: (613) 435-0216 Fax: (613) 435-0217 erich.haber@rogers.com

For inquiries on lichens: (Blue Felt Lichen, Crumpled Tarpaper Lichen, Roell's Brotherella Moss) **Dr. René Belland** Devonian Botanic Garden University of Alberta Telephone: (780) 987-3054 ext. 2240 Fax: (780) 987-4141 rbelland@ales.ualberta.ca	

Further details on all wildlife species assessed, and the reasons for designations, can be found on the COSEWIC website at: www.cosewic.gc.ca

In 2010, the United Nations International Year of Biodiversity, people around the world will step up efforts to slow down the widespread rapid rate of biodiversity loss. As well, throughout the year, communities will celebrate the amazing diversity of life on the planet.

COSEWIC
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Once More, Aquatic Species in Canada Highlighted at Recent Species at Risk Meeting

Wildlife species found in marine and freshwater habitats were prominent when COSEWIC (Committee on the Status of Endangered Wildlife in Canada) met in Charlottetown, PEI, May 1-6, 2011, to assess the conservation status of 40 Canadian wildlife species. Aquatic species considered at risk included several fishes, molluscs, insects, whales and amphibians, underscoring the continuing vulnerability of aquatic ecosystems to habitat degradation and overexploitation.

Photo © Graeme McInnes

Tuna Trouble – Record Low Numbers for Prized Sushi Species

Atlantic Bluefin Tuna is one of the most highly sought-after fish species in the world with some market prices exceeding $1000 per kilogram. Unfortunately, its value has driven the species into a steep decline since the 1970s with recent abundance reaching an all-time low. Overfishing remains the single largest threat, and international attempts to improve management have yet to see populations increase. The species is highly migratory, and the fish caught in Canadian waters actually spawn in the Gulf of Mexico. Thus, they are exposed to commercial fisheries not only in Canada but all along the east coast of North America during migration. Atlantic Bluefin Tuna was assessed by COSEWIC as Endangered.

Forecast Grim for Iconic Fish of West Coast First Nations

The Eulachon or 'candlefish', so-called because of its exceptionally high oil content and historical use as a candle, was assessed for the first time at this meeting. This small fish was once a cultural mainstay of many First Nations groups of coastal BC and the origin of the famous 'grease trails' that linked coastal and inland communities. Since the early 1990s, many traditional fisheries for this species have seen catastrophic declines of 90% or more, and the species is facing extirpation in many rivers. The cause is unclear but may be related to reductions in marine survival associated with shifting environmental conditions, by-catch,

directed fishing and predation. Only the Nass River still supports a fishery but even here numbers have declined. The Nass / Skeena Rivers population of Eulachon was assessed as Threatened. Further south, the Central Pacific Coast and the Fraser River populations have experienced even greater declines resulting in an Endangered designation for both populations.

All of Canada's Sturgeon Species Now Considered at Risk

Sporadic episodes of intense fisheries followed by population crashes characterize the history of Atlantic Sturgeon in Canada. This large fish has experienced significant habitat degradation associated with pollution and hydro-electric dams and is known to spawn in two Canadian rivers where some harvest continues. Considerable uncertainty exists regarding how much harvest this species can withstand given its late maturity and slow reproductive rate. Consequently, populations in both of the Great Lakes / St. Lawrence and the Maritimes regions were designated as Threatened. This is the last of Canada's five sturgeon species to be assessed by COSEWIC; all are now considered to be at some risk of extinction.

Degraded River Habitats Endanger Two Invertebrates

Agricultural and urban run-off into streams pose key threats for at least two species at risk in Ontario. The Salamander Mussel has only ever been documented in two rivers in Canada, and its continued existence in one watershed, the Thames River, is in question. Similarly, the globally rare Hungerford's Crawling Water Beetle is known from only three Lake Huron streams. Observed declines coupled with habitat degradation and restricted range led to a designation of Endangered for both species.

Range-wide Declines Remain a Mystery for Well-known Canadian Bird

The Barn Swallow is easily identified by its deeply forked tail and swooping flight as it hunts for insects over lakes and fields. This bird, the most widespread swallow species in the world, is following the pattern of declining trends seen in many migratory birds across North America that eat flying insects. The reasons for declines of up to 76% in the past 40 years continue to baffle bird experts but changes in habitats, insect communities and climate have all been implicated. The Barn Swallow was assessed as Threatened.

Two Ontario Species Lost?

Two wildlife species have not been seen despite ongoing searches since they were last assessed by COSEWIC over 10 years ago. The Small Whorled Pogonia, a woodland orchid known from only one locality in south western Ontario, was last observed in 1998. Similarly, the Blanchard's Cricket Frog has not been seen at any of its Lake Erie locations since 1970. Habitat degradation in this heavily developed region is the main concern for both species. They retain a status of Endangered awaiting further evidence that they no longer exist in Canada.

Humpback Makes a Comeback!

Reaching up to 45 tons at maturity, humpback whales are the most acrobatic of all baleen whales. When originally assessed by COSEWIC in 1985, the North Pacific population of Humpback Whale was designated as Threatened due to dramatic declines in the early 1900s and continued commercial whaling up until 1967. Recent studies indicate, however, that the population off the Pacific coast is increasing steadily, despite continuing threats including collisions with ships, entanglement with fishing gear and underwater noise. The North Pacific population of Humpback Whales was re-assessed as Special Concern.

Next Meeting

COSEWIC's next scheduled wildlife species assessment meeting will be held in Ottawa, ON, in November 2011.

About COSEWIC

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Dr. Marty L. Leonard
Chair, COSEWIC
Department of Biology
Dalhousie University
Halifax NS B3H 4J1
mleonard@dal.ca

For general inquiries:

COSEWIC Secretariat
Canadian Wildlife Service
Environment Canada
351 St. Joseph Blvd, 4th floor
Gatineau QC K1A 0H3
Telephone: (819) 953-3215
Fax: (819) 994-3684
cosewic/cosepac@ec.gc.ca
www.cosewic.gc.ca

For inquiries on Aboriginal Traditional Knowledge:

Dr. Donna Hurlburt
Telephone: (902) 532-1341
Fax: (902) 532-1341
donna.hurlburt@ns.sympatico.ca

For inquiries on marine mammals:
(Humpback Whale, Northern Bottlenose Whale)

Dr. Randall Reeves
Okapi Wildlife Associates
Telephone: (450) 458-6685
Fax: (450) 458-7383
rrreeves@okapis.ca

For inquiries on birds:
(Barn Swallow, Barrow's Goldeneye, Eastern Meadowlark, Henslow's Sparrow, King Rail, Long-billed Curlew)

Jon McCracken
Director
National Programs
Bird Studies Canada
Telephone: (519) 586-3531 ext. 115
Fax: (519) 586-3532
jmccracken@bsc-eoc.org

For inquiries on amphibians and reptiles:
(Blanchard's Cricket Frog, Oregon Spotted Frog, Spring Salamander, Desert Nightsnake)

Dr. Ronald J. Brooks
Department of Integrative Biology
College of Biological Science
University of Guelph
Telephone: (519) 836-8817
Fax: (519) 767-1656
rjbrooks@uoguelph.ca

For inquiries on freshwater fishes: (Atlantic Sturgeon, Silver Lamprey, Silver Shiner) **Dr. Eric B. (Rick) Taylor** Professor Department of Zoology University of British Columbia Telephone: (604) 822-9152 Fax: (604) 822-2416 etaylor@zoology.ubc.ca	For inquiries on marine fishes: (Atlantic Bluefin Tuna, Eulachon) **Alan F. Sinclair** alanfsinclair@me.com
For inquiries on arthropods (insects and related taxa): (Dune Tachinid Fly, Hine's Emerald, Hungerford's Crawling Water Beetle, Macropis Cuckoo Bee, Olive Clubtail, Taylor's Checkerspot) **Dr. Paul Catling** Research Scientist and Curator Agriculture Canada Telephone: (613) 759-1373 Fax: (613) 759-1599 catlingp@agr.gc.ca	For inquiries on molluscs: (Hickorynut, Olympia Oyster, Salamander Mussel) **Dr. Dwayne Lepitzki** Telephone: (403) 762-0864 lepitzki@telusplanet.net
For inquiries on plants: (Furbish's Lousewort, Long's Braya, Lyall's Mariposa Lily, Small Whorled Pogonia, Southern Maidenhair Fern) **Bruce Bennett** Wildlife Viewing Biologist Yukon Department of Environment Wildlife Viewing Program Telephone: (867) 667-5331 Fax: (867) 393-6263 brbennett@klondiker.com	For inquiries on mosses and lichens: (Poor Pocket Moss, Batwing Vinyl Lichen, Peacock Vinyl Lichen) **Dr. David H. S. Richardson** Environmental Studies Saint Mary's University Telephone: (902) 496-8174 Fax: (902) 420-5261 david.richardson@smu.ca

Further details on all wildlife species assessed, and the reasons for designations, can be found on the COSEWIC website at: www.cosewic.gc.ca

APPENDIX III

BIOSKETCHES

NOMINATION FOR REAPPOINTMENT – COSEWIC
Co-Chair, Amphibians & Reptiles Specialist Subcommittee
(1 year term January 1, 2012 – December 31, 2012)

Dr. Ronald J. Brooks

Dr. Ronald J. Brooks is the current co-chair the Amphibians & Reptiles Specialist Subcommittee of COSEWIC and is a Professor Emeritus of Integrative Biology at the University of Guelph. Dr. Brooks has held the Amphibians & Reptiles Specialist Subcommittee co-chair position on COSEWIC since 1995 and has also been a member of a plethora of working groups on COSEWIC. He was the president of the Canadian Association of Herpetologists from 1996 to 2002 and has served as a member of the Board of Directors, Canadian Amphibian and Reptile Conservation Network since 1997. He has also been a member of the IUCN Species Survival Commission – Tortoises and Turtles since 1996. From 2008-2011, he has been also a member of COSSARO (Committee on the Status of Species at Risk in Ontario). Dr. Brooks was a member from 2004-2006 of the Scientific Advisory Committee of the Endangered Species Recovery Team of World Wildlife Canada and serves on the recovery teams for Blue Racer, Wood Turtle, Eastern Foxsnake, Eastern Hog-nosed Snake, and Queensnake and currently (2007-2011) is co-chair of OMSTARRT (Ontario Multispecies Turtles at Risk Recovery Team).

Dr. Brooks has published about 120 articles in peer-reviewed scientific journals. His research on reptiles covers all eight of Canada's extant freshwater turtles with some projects extending back to the 1970s. In addition, Dr. Brooks' students have worked on several species of snakes, including the Blue Racer, Eastern Foxsnake, DeKay's Brownsnake, Lake Erie Watersnake and Eastern Hog-nosed Snake. These studies have focused on life history, ecology, demography, conservation, embryonic development, sex determination and hatching success. Dr. Brooks has also published papers on leeches, earthworms, fish, mites, dipteran flies, lemmings, voles, deer mice, wolves, caribou and beaver, and was, until 2009, director of the longest-running (59 years to date) monitoring study of small mammals in North America or perhaps the world.

Dr. Brooks recently received the Blue Racer Conservation Award from the Canadian Amphibian and Reptile Conservation Network.

NOMINATION FOR REAPPOINTMENT – COSEWIC

Co-Chair, Arthropods Specialist Subcommittee
January 1, 2012 – December 31, 2015 (four year term)

Dr. Laurence Packer

Dr. Laurence Packer is a full professor in the Department of Biology, Faculty of Science and Engineering, at York University in Toronto. He has been at York since 1988. Prior to that, he was a Post-Doctoral Research Fellow in the Department of Biological Sciences at the University of Calgary (1987-88) and an Assistant Professor of Biology at the University College of Cape Breton (1986-87). He received his Ph.D. from the University of Toronto in 1986.

Dr. Packer is a prolific researcher with over 100 primary publications, many of them in high impact journals, on the biology, systematics, behaviour, conservation genetics and biodiversity of insects, mainly bees. He is a recognized expert on bees who has obtained numerous research grants. He is a member of the editorial board for the Canadian Journal of Zoology and Insect Conservation and Diversity. He has supervised over 20 Masters and Ph.D students. He has taught undergraduate courses in entomology, biodiversity, systematics and evolution and graduate courses in ecology, entomology, phylogenetics and the biology of bees. Dr. Packer has been a member of COSEWIC and Co-chair of the Arthropods Subcommittee for 5 years. He has worked on the insects of oak savanna and tallgrass prairie habitats in Ontario, wrote the COSEWIC status report on the Frosted Elfin butterfly and a status report on the Karner Blue butterfly for the World Wildlife Fund and the Ontario Ministry of Natural Resources, and is a member of the Karner Blue recovery team. His book - "Keeping the Bees" deals with the importance and conservation of bees and was published in May 2010.

Dr. Packer has extensive experience serving on major committees both within and outside the University, including search committees for new faculty members, the departmental chair and NSERC review panels. He has chaired the tenure and promotion committee for the Biology Department at York University. He is described as fair, organized and hardworking, and as someone with good interpersonal skills who is articulate, listens well and "gets the job done."

NOMINATION FOR REAPPOINTMENT – COSEWIC

Co-chair, Freshwater Fishes Specialist Subcommittee
January 1, 2012 to December 31, 2015 (four year term)

Dr. Eric B. Taylor

Dr. Taylor received a Ph.D. from the University of British Columbia (UBC) in 1989 and is currently a full Professor at UBC in Vancouver where he is Curator of the UBC Fish Museum and Associate Director of the Biodiversity Research Centre. His research has focused on the conservation and genetics of western North American freshwater and marine fishes. Dr. Taylor has published over 100 papers in the primary literature including several papers on listed Canadian fishes.

Dr. Taylor has considerable knowledge and experience with respect to the biology and conservation of Canadian marine, anadromous and freshwater fishes. He is most knowledgeable regarding western and northwestern Canadian marine and freshwater environments. Dr. Taylor has been a member of the COSEWIC Freshwater Fishes Specialist Subcommittee since 2001. This has given him a good background in the COSEWIC species assessment process and in formulating recommendations with respect to biological status. Dr. Taylor also authored the original COSEWIC status report on Lake Utopia smelt populations and prepared the Designatable Unit Key that has been considered by COSEWIC. He is also a member of the American Fisheries Society's Endangered Species Committee and is an Associate Editor or on the Editorial Review Board of several journals.

NOMINATION FOR REAPPOINTMENT – COSEWIC

Co-chair, Marine Mammals Specialist Subcommittee
January 1, 2012 – December 31, 2012 (one year term)

Dr. Jane Watson

Dr. Watson has a B.Sc. from the University of British Columbia and a Ph.D. from the University of California at Santa Cruz. She is currently a Professor of the Department of Biology at Vancouver Island University. Over the last 24 years, Dr. Watson has conducted research on the community ecology and population biology of sea otters. She has also been involved in population assessments of a variety of Pacific marine mammal species. Dr. Watson has a broad knowledge of the natural history and biology of the marine mammals of the Pacific coast of North America and has a strong background in the biology and taxonomy of marine macro-invertebrates, fish, birds and vegetation of the same region.

Dr. Watson has experience in assessment techniques and in formulating status recommendations. She has been a member of the COSEWIC Marine Mammal Specialist Subcommittee for 11 years, where she is a diligent and well-respected member. She has also served on the sea otter recovery team and a variety of local non-government organizations to assess the status of marine species in the Strait of Georgia and coastal BC. Dr. Watson is also well versed in the concepts and techniques related to the assessment and conservation of species at risk through her own research on marine mammals.

Dr. Watson has extensive reviewing experience, including reviews of COSEWIC status reports for the Marine Mammal Specialist Subcommittee, articles for peer-reviewed journals, grant and scholarship applications and graduate student theses.

NOMINATION FOR REAPPOINTMENT - COSEWIC

Co-chair, Mosses & Lichens Specialist Subcommittee
January 1, 2012 to December 31, 2015 (four year term)

Dr. René J. Belland

Dr. Belland is Associate Director of the Devonian Botanic Garden with the University of Alberta in Edmonton, Alberta. He received his M.Sc. (1981) and Ph.D. (1985) in Biology from Memorial University where he studied the distribution, ecology and phytogeography of the mosses of the Gulf of St. Lawrence Region. He then spent 2 years as a post-doctoral fellow and a further 5 years as a research scientist in the Department of Botany at the University of British Columbia in Vancouver where he studied the distribution of British Columbia mosses and continued to work on the bryophyte flora of Atlantic Canada. He became a research associate in the Department of Botany at the University of Alberta in Edmonton in 1993 and has been in his current position of Associate Director of the Devonian Botanic Garden since 1996.

Dr. Belland has over 35 years of experience as a bryologist, with expertise in the mosses of Atlantic Canada, British Columbia, Alberta and the Arctic. His research focuses on the distribution, ecology and phytogeography of bryophytes, with a particular interest in rare species. He has experience in teaching and research and is an active field botanist. He has taught courses on bryology, plant biology, and general biology, and conservation of endangered species, has co-supervised two Ph.D. students, and has been on the supervisory committee for ten other graduate students. His research on the distribution and ecology of the mosses and liverworts in Canada has resulted in 34 peer-reviewed articles, one book chapter and 27 reports. He is without a doubt a recognized authority on the bryophyte flora of Canada. His membership on several World Conservation Union (IUCN) committees is evidence of his influence at the international level.

Dr. Belland has extensive experience in the assessment and conservation of species at risk at the federal, provincial and international levels. He is currently Co-Chair of the Mosses and Lichens Specialist Subcommittee of COSEWIC and chairs the Endangered Species Assessment Subcommittee for the Province of Alberta. He is a member of two IUCN committees (one dealing with bryophytes and the other with Arctic plants), and has been involved in recovery activities for Haller's Apple Moss in British Columbia and Alberta and Porsild's bryum in Newfoundland and Alberta. He has also worked extensively with provincial heritage programs and authored the status lists for NT, YT, BC, NL, AB and well as provided advice to SK and MB. Dr Belland recently coordinated the general status of mosses for the 2010 General Status of Wildlife in Canada.

NOMINATION FOR REAPPOINTMENT - COSEWIC CO-CHAIR, VASCULAR PLANTS SPECIALIST SUBCOMMITTEE

January 1, 2012 – December 31, 2012 (one year term)

Mr. Bruce Bennett

Mr. Bennett is a biologist based in the Yukon with more than 20 years of professional experience as a field botanist. He is currently employed as a wildlife biologist with the Yukon Department of Environment. His formal academic training includes a B.Sc. in Biology (University of Victoria, 1991), and two technical diplomas including one in fish, wildlife and recreation (British Columbia Institute of Technology, 1989).

His experience with vascular plants is primarily with the flora of the Yukon Territory, as reflected in his publications. Of 16 publications listed as peer-reviewed (since 2000), eight are new plant records for Yukon, and two others are updates for Yukon species. Most of these publications are in *Canadian Field Naturalist* (8) or *Botanical Electronic News* (4). He also has a strong knowledge of vascular plants in British Columbia having worked as a naturalist in Manning Park, as the collection manager for the Royal British Columbia Museum, and worked on Southern Vancouver Island and the South Okanagan with the Canadian Wildlife Service before moving to Yukon in 1995.

His field experience is extensive, and his knowledge of the Yukon flora is well established. In addition, he has experience with rare plants, including assessing conservation status, having served as the NatureServe Botanist for the Yukon, in addition to conducting inventory work in Yukon, northern British Columbia and western Northwest Territories. He has served as a member of the COSEWIC Vascular Plants Specialist Subcommittee since 2005, and is a member of a number of other committees, including the Yukon Invasive Species Council, and the Wildlife Viewing Technical Committee.

NOMINATION FOR APPOINTMENT - COSEWIC

Non-government Science Member
January 1, 2012 to December 31, 2015 (four year term)

Dr. Arne Mooers

Dr. Mooers was educated at McGill University (BSC, magna summe laude, 1989) and at the University of Oxford UK (DPhil, 1994), and had research appointments at the University of British Columbia (1995-1997) and the Zoological Museum of Amsterdam (NL; 1997-2000). He was appointed to the faculty at Simon Fraser University in the area of Biodiversity in 2000 and was appointed full professor in 2010.

His research centers on how species diversify, how they are related to each other, and how this information might be used for species conservation and management. His most relevant contributions in the field of endangered species conservation include Charrette et al., 2006 (*Ecology*), Mooers et al., 2007 and 2009, Magnuson-Ford et al. 2009, Meuser et al., 2009 (all in *Conservation Biology*) and Mooers et al., 2010 (*Bioscience*).

Dr. Mooers has served as an Associate Editor for the international learned journals *Journal of Evolutionary Biology*, *Evolution*, and, currently, *Ecology Letters*. He is the Chair of the Biodiversity and Conservation Committee of the Canadian Society for Ecology and Evolution (www.ecoevo.ca), as well as a member of its Executive Committee (2010-2013). Finally, Dr. Mooers maintains a small *ad hoc* organization dedicated to improving independent scientific input into biodiversity conservation policy (www.scientists-for-species.org).